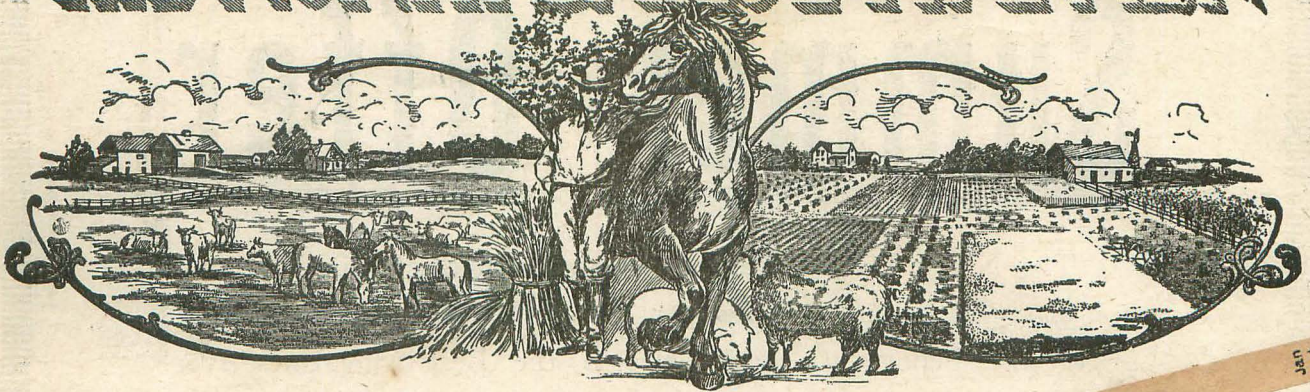


LIBRARY
UNIVERSITY OF NORTH DAKOTA
ELLENDALE BRANCH
ELLENDALE, NORTH DAKOTA

THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

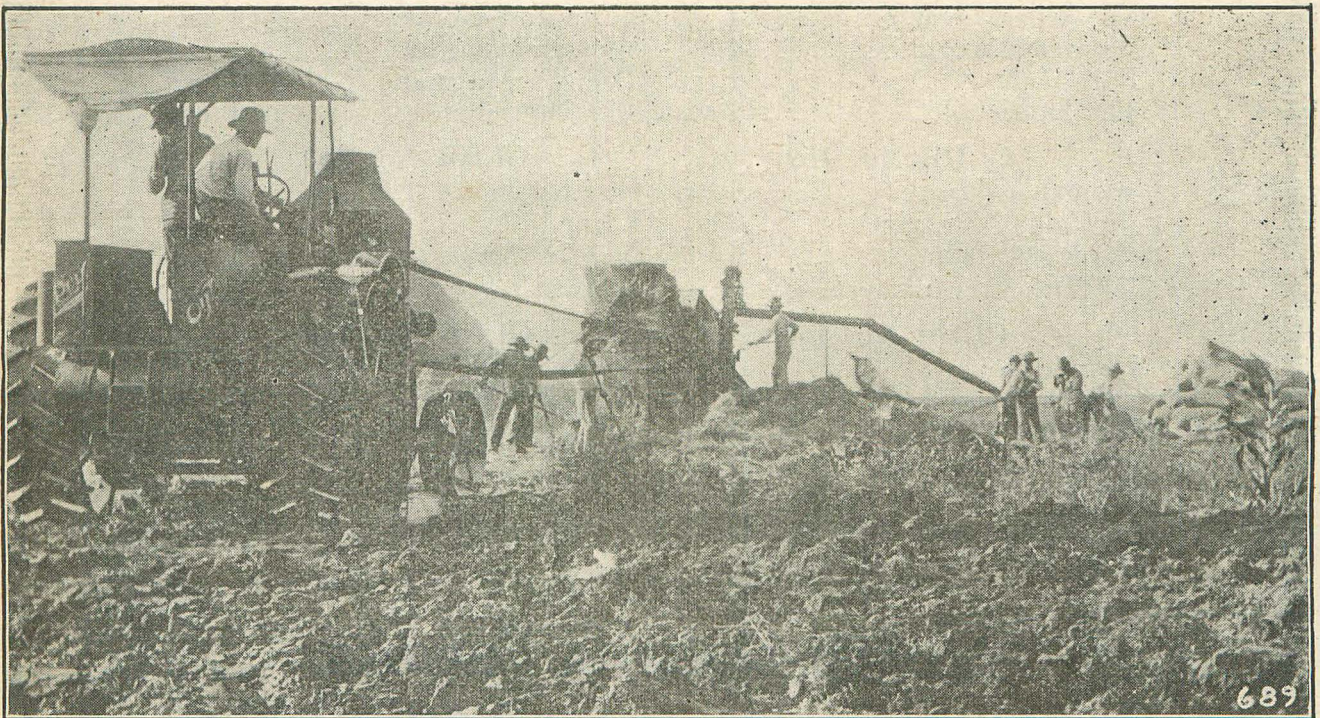
Alex Alin

Vol. 16 No. 2

Lisbon, North Dakota, August 15, 1914

50 Cents A Year

The Farm Tractor, a Paying Investment



"The tractor has come to stay on the farm. If used only for plowing and breaking it is by no means as economical as the horse, but when utilized for threshing, grinding, pumping, lighting and heating as well, it becomes not only useful but indispensable."

178.4

v814

rzh2m

Summer Offer

The North Dakota Farmer has been successful in obtaining first-class magazines to offer our readers at less than wholesale prices and believe we have selected the Best Magazines ever offered in combination with the North Dakota Farmer at these extremely low prices.

Remember, each offer includes one year's subscription to the North Dakota Farmer and, in addition, your choice of any one of the clubs listed below, for only \$1.00

CLUB No. 158

McCall's Magazine.....1 yr.	Farm and Home.....1 yr.
Woman's World.....1 yr.	Woman's World.....1 yr.
Farm Life.....1 yr.	Today's Magazine.....1 yr.
The Household.....1 yr.	The Household.....1 yr.

CLUB No. 159

Woman's World.....1 yr.	Gentlewoman.....1 yr.
McCall's Magazine.....1 yr.	Farm Life.....1 yr.
Farm and Home.....1 yr.	Needlecraft.....1 yr.
(With Free Pattern—).	Woman's World.....1 yr.

CLUB No. 160

Happy Hours.....1 yr.	Needlecraft.....1 yr.
The Household.....1 yr.	Woman's World.....1 yr.
Woman's World.....1 yr.	The Household.....1 yr.
Gentlewoman.....1 yr.	Farm and Home.....1 yr.

CLUB No. 161

Farm and Home.....1 yr.
Woman's World.....1 yr.
Today's Magazine.....1 yr.
The Household.....1 yr.

CLUB No. 162

Gentlewoman.....1 yr.
Farm Life.....1 yr.
Needlecraft.....1 yr.
Woman's World.....1 yr.

CLUB No. 163

Needlecraft.....1 yr.
Woman's World.....1 yr.
The Household.....1 yr.
Farm and Home.....1 yr.

Simply give number of club and enclose \$1.00 in money order, bill, check, draft or stamps to

North Dakota Farmer
Lisbon, - - - North Dakota

THE NORTH DAKOTA FARMER

Vol. 16, No. 2

LISBON N. D., AUGUST 15, 1914

50 Cents a Year

Ten Commandments for the Dairy Farmer

By Charles Cristadoro, Pt. Loma, California

1. KEEP HEALTHY COWS.

Keep a reasonable number of cattle and whether the number be large or small, keep them tuberculin tested; and retest, preferably, every six months, segregating but not necessarily destroying reactors. The only way to keep the herd clean: feed no milk from reacting or even untested cows, and no milk returned from creameries, to calves or other stock, unless such milk be first heated up to at least 145 degrees Fahrenheit for thirty minutes (pasteurized), thus checking the spread of tuberculosis. This is not theory, but sound practice.

2. SELECT AND KEEP THE GOOD PRODUCERS.

Know what each cow produces over and above her keep, and promptly get rid of unprofitable ones. A 4000 and an 8000 pound cow costs about the same to keep. One just pays for her keep, the other nets a profit of \$50 to \$60 per annum. Ascertain, carefully, your best market, whether for whole milk or butter fat. Co-operate and reciprocate with your neighbors; nothing else pays quite so well as co-operation.

3. USE ONLY PURE BRED BULLS.

Keep and use only a pure bred bull. Upon this depends the upkeep and improvement of the herd. There is very little difference in the cost of raising calves of superior and inferior breeding, but there is a great difference in the profits obtainable from superior and inferior cattle. If necessary, go into debt for a good bull.

4. FEED LIBERALLY.

Note that a balanced ration of 17 pounds gives as much butter fat as an unbalanced 21 pound ration, and that continuous silage is sometimes cheaper than pasture. A ton of alfalfa hay equals in food value 60 bushels of oats. Keep in mind that only 100 pounds of butter fat yearly per cow cost the producer on an average 35 cents per pound; and that 300 pounds yearly per cow cost 12½ cents about per pound. Thus does it pay royally to improve the herd.

5. PRODUCE THE FEED.

It pays better to market your hay and grain in the form of milk, butter fat, steers and hogs. Erect one or more silos, grow alfalfa, corn, sorghum, sweet clover, kaffir corn and soy beans. Beet tops, siloed with corn, have made excellent silage. Rotate your crops. Use silage and thus secure milk-producing fodder the year around, which will enable you to keep up your milk yield during the entire year. Silage requires one-eighth the storage space of hay.

6. USE THE MANURE.

Remember that \$100 worth of hay (clover) contains \$85 worth of plant food; that when this is fed to the cow, three-fourths of the plant food is returned in the manure. \$100 worth of cream contains but \$1 worth of fertility while \$100 worth of butter contains but ten cents worth of fertility. This makes it plain that feeding hay to the cow leaves nearly all its fertilizing constituents in the manure to be returned to the land, while had the

hay been sold, this fertility would have been a total loss to the soil. Either use the manure daily upon the farm, or store it in a shallow concrete pit, at a reasonable distance from the barn or milk-house, and thus save the valuable nitrogen that the ground, sun and rain would help eliminate. Keep the pasture highly fertilized. The addition of lime phosphates, etc., to a cow pasture, has meant a large increase in the yield of milk. Mortgage your farm for a manure-spreader.

7. KEEP THE BARN CLEAN AND WELL VENTILATED.

Keep the barn well lighted, ventilated and securely fly screened. Keep it clean. Nothing is more important than cleanliness. Keep the cows clean by care and abundant bedding. See to it that covered milk pails are used, and that the milk utensils are well washed and then scalded. Do not throw down hay to the cows an hour before milking. See that the milkers are healthy and clean persons, who wash their hands carefully before milking. Remove milk pail, when full, at once from barn, and strain the milk thru cotton or gauze or better, clarify it with clarifying machine. Even the best milk produced demands clarification and pasteurization to insure absolute cleanliness and safety at ALL TIMES. From first to last let care be taken to keep the milk clean and free from contamination of any kind. Never be without a dairy thermometer in the milk house, and use it.

8. KEEP THE COWS COMFORTABLE.

Remember that the dairy cow is a daily revenue producer, and is the

most valuable asset on the farm. She requires work, and is profitable in proportion to the attention she receives. She is a source of immediate income, and at the same time helps keep up the fertility of the soil. Also remember that the dairy cow is a mother, and that good care, kind and gentle usage, liberal feeding, and healthful environment are necessary if she is to give good profit from her motherhood. As you measure to the cow, so shall it be measured to you in return.

9. BE CONSIDERATE TO THE COWS.

During milking time use no profane language. Keep dogs and strangers out of the barn. Become acquainted with and know your cow. It pays. Under no circumstances permit a cow to be kicked or abused by the hired man—it never pays. It is mean and brutal as well. There always is some reason for a cow's being restless. Find the cause and remove it.

10. PROVIDE SHADE AND WIND PROTECTION, ETC.

Provide ample wind protection, shade, salt and clean water. He who

obeys all of these commands will reap abundant profits, for he who sets apart the gross product of a succession of single good cows regularly for 50 years, and keeps the accumulations at 6% interest, will, at the age of 70, have to his credit not less than \$30,000.00. Note well, that a thrifty steer may gain 500 pounds in a year which 500 pounds reduced to a dry food basis of weight amounts to but 60 or 70 pounds. A cow yielding 8000 pounds of milk per annum, will produce 960 pounds of dry food matter, milk solids. And note that the dairy cow has increased the total bank deposits of the state of Wisconsin three hundred per cent in ten years. A business asset.

CHARLES CRISTADORO,

President Co-operative
Association for Better Farming.

NOTE:

Those who care to study milk sanitation can send for Dr. Magruder's "Solution of the Milk Problem" enclosing 10 cents to R. Beresford, Washington, D. C. The best Bulletin yet written upon milk.

making clevises, bolts, welding links in chains, etc., while some of them become able to shape horse shoes and fit them to the hoofs of horses.

Boys that take an interest in these things are not so apt to become discontented with farm life. It also keeps them out of mischief and inculcates a spirit of industry that is even more desirable than the tinkering they can accomplish on bad days.

A machinery shed, properly equipped with tools, thus becomes a useful workshop as well as shelter for the costly machinery that every farmer must purchase. Altogether a suitable shed can be built for the money that will represent the depreciation of values arising from exposed machinery, in a few years, to say nothing of breaks that occur for want of making repairs during odd spells.

It is estimated that the annual loss in North Dakota resulting from machinery exposed to the elements runs away up into the millions of dollars. Not only the money loss on account of deterioration, but it makes a farmstead look ragged and unsightly to see farm implements strung about the buildings or left standing in the fields where last used to injure livestock—another material item of loss that might be avoided.

The thrifty farmer often spends money to save money, and where the expenditure of a comparatively small sum will save so much money and at the same time make the farmstead look so much more tidy it would seem unnecessary to argue further the importance of building a machine shed on every farm.

Sheds for Farm Machinery

By President J. H. Worst, N. D. A. G.

When one considers the investment in farm implements that are left standing in the fields or parked around the occasional farmstead, and takes into consideration the annual money loss on account of depreciation resulting from their exposed condition, it would startle the country. Millions of dollars are sunk every year. In addition to the actual depreciation alluded to, the weakening of parts of farm implements, occasioned by rust from exposure to the elements, causes needless breakages which result in loss of time at critical periods which, measured in time and money, swells the total waste very materially. Much of this loss could be avoided if but a fraction of the money thus wasted were spent for lumber and cheap structures erected to protect the farm machinery, when not in use, from the elements.

A machine shed need not be an expensive structure. All that is required is protection from the sun and rain. A "lean-to" on one side of the barn will often make a good and yet inexpensive shelter for the farm machinery. Thus sheltered, when not in

actual use, the binder, drill, mowing machine, etc., will render good service for about twice the period that they will when exposed to sun, wind and rain thruout the year.

Where a shed is built, as here indicated, it is a good plan to provide some extra space for making repairs.

With a few tools a farmer can utilize spare time, especially on rainy days, by making repairs so that every implement used on the farm is kept in good working condition at all times. Where grown boys constitute a part of the family, it is especially desirable to stock up the shed with a kit of tools for their use. Boys like to work with tools and often prefer to make repairs rather than loaf.

It is a noticeable fact, here at the Agricultural College, that farm boys have a relish for the blacksmith and wood shops and soon become quite handy with such tools as are used when working in wood and iron. They not only become handy but take great pleasure in making such things as are of common use on the farm, including such work as ironing neck-yokes, single trees, sharpening plow lays,

DEMONSTRATION FARM MEETING

Successful Gathering at McLeod,
and much illuminating information imparted.

Supt. W. R. Porter

Over 150 people gathered at the annual Demonstration Farm picnic held on the McLeod Demonstration Farm at McLeod, N. D., on the 7th of July. Many people came in the forenoon and enjoyed their lunch in the grove, which is only four years old yet many of the trees are nearly twenty feet in height. This grove is composed of white willow, golden willow, green ash, boxelder, and American elm, and was planted from seedlings and cuttings in the spring of 1910. Some farmers were heard to remark that they did not believe it possible that trees would make such a growth in so short a period of time. Compass cherries planted at the same time were fully loaded with

fruit. The same is true of the Forest Garden plum trees; these trees were heavily mulched a year ago—mice working in the straw which was used for a mulch caused the death of a few trees and it illustrated the fact that great care must be used not to make the mulch too heavy, if straw is used for that purpose.

Alfalfa is Very Successful

Perhaps the most striking thing on this farm is the alfalfa crop. Alfalfa was planted on the sandy knolls, where every farmer in the country said nothing would grow, in the spring of 1911. The first two plantings made early in June were entirely destroyed as they came up by the drifting sand. The third crop planted on the 29th of June produced a good stand as the soil did not move until it had attained some little height and was able to resist the cutting action of the sand. This field produced excellent yields of alfalfa both in 1912 and 1913. The first crop had been cut the middle of June this year and yielded approximately 3200 pounds of air dry hay per acre. The second cutting was almost ready to cut. The stand was approximately twenty inches in height, very thick all over the ground, and a few plants were beginning to blossom. With this crop removed by the middle of July, it would be quite possible to make the third cutting the latter part of August. One farmer was heard to say that it took a good deal of persistency to get a good stand of alfalfa on the sand hills, but it looked as tho they would make the best land once the stand of alfalfa was obtained. One thing which attracted a great deal of attention in the alfalfa field was a hole which

was dug nine feet deep. Along the side of this the alfalfa roots could be seen extending down to a depth of nine feet in the soil. This caused a good deal of discussion. One farmer was heard to say he would have been willing to bet his last dollar that alfalfa roots would not go down in the soil more than a foot and a half. It was a revelation to him to see them go down nine feet and still going. Going down to that depth, of course, they would gather plant food and water to keep the alfalfa alive and growing during dry periods.

Red Top is Valuable Hay for Low-lands

The land at McLeod is sub-irrigated, gently rolling; the high land is sandy hills and the depressions being sloughs much of the season being filled with water. On the lower land red top was sown in the spring of 1910. This has produced excellent crops since it was sown—it yielded approximately two tons of excellent hay per year. The red top on the lower ground and the alfalfa beginning where the red top leaves off on the higher land, it is quite possible to put all the McLeod country under cultivation with these valuable crops, with the exception of the lowest lands. The red top is ready to cut at the time the alfalfa is cut the second time. Under such a system the alfalfa on the high land will be cut two or three times a year and the red top on the low land will be cut but once. In this way the land will yield over two tons of excellent hay per year on an average, if the results obtained on the Demonstration Farms is any criterion of what can be obtained.

Wheat Has Not Been a Paying Crop
Wheat on this farm has not done

well as the character of the soil is not well adapted to wheat production. Nevertheless, our winter wheat which was sown in corn a year ago looked as tho it would produce a good crop; it was fully headed out and there was not much of it that had been winter killed. Spelts has not proved to be very successful. Oats on the other hand has done very well. During the three years of 1910, 1912 and 1913 the White Russian Oats have averaged 42 1-2 bushels to the acre. Corn also does well. This means that the farmer in this section of the state should be a live-stock farmer. He can grow an abundance of alfalfa, red top, millet and other forage crops for livestock, and

DO YOUR OWN SHREDDING

with a
**ROSENTHAL
Corn Husker
and Shredder**



No. 1 Cyclone
Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Only 6 to 8 h. p. to run it. Built on same sturdy, success lines as our larger machines. Absolutely safe to operate. 19 years in the field.

SOLD ON TRIAL YOU TAKE NO RISK
Write today, stating horsepower of your engine
ROSENTHAL CORN HUSKER CO. Box 32, Milwaukee, Wis.
Also makers of Feed Cutters and Silo Fillers.

WRITE ME!

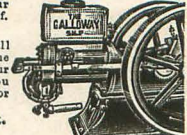


Get my new, low, factory prices on the Famous Galloway Engines and big, illustrated FREE catalog. My engines are standard, high quality engines. Made in sizes from 1 3/4 to 15 H. P. Over 40,000 in use today. All sold on 30 days FREE trial, backed by five year guarantee and \$25,000 bond. Money back if not satisfied. Investigate! Quite paying exorbitant prices for inferior engines. Save middlemen's profit. Be your own dealer.

BUY DIRECT FROM THE MANUFACTURER
and Save \$50 to \$300 on Gasoline Engines
That comes about as near keeping your money at home as any way you can think of. Write me before you buy.

FREE Service Department that will help you select and install the best style and also engine you need for your work without cost to you. Let me send you my New 1914 Special Offer. Just write for my catalog and new, low prices today.

Address Wm. Galloway, Pres.
WM. GALLOWAY CO.
985 Galloway Station : Waterloo, Iowa



FARGO FOUNDRY CO., Fargo, N. D.

The Largest Foundry Machine Shop and Boiler Shop in the Northwest. A large stock of Structural Steel and Iron always on hand. Full Line of Blacksmith Tools for Farm use. The Biggest plant in the Biggest Little City in the world.

We make a specialty of modern Fire Escapes. Best Tools and Skilled Workmen is the secret of our success. While in our city call and see us and judge for Yourselfes.

Oxy-Acetylene Welding in connection.

End of North Bridge, N. P. Ave.

he can supplement such feed with corn and oats, which are remarkably good feed, but do not bring very much when sold in the elevator.

Potatoes Are Making Good Yields

Potatoes have done remarkably well on this farm. During the past four years, beginning with 1910, the Early Ohio potatoes have averaged 121.8 bushels per acre of marketable potatoes. The average yield for the three years beginning in 1911 for Burbanks has been 132.8 bushels, and for Rural New Yorkers during the same period has been 187.1 bushels per acre, and the quality of the potatoes produced has been good in every case. This means that potatoes are a cash crop that may be grown very profitably in this vicinity, and they supplement livestock farming in a very nice way. Cultivated crops that follow grass or alfalfa crops do well in a rotation; when potatoes are very cheap they are good feed and when they are high priced they mean a large ready cash income, always very acceptable on any well organized farm.

The Ladies were Entertained

While the men were inspecting the different fields, the ladies were gathered on benches in the shade of the buildings where they listened to a talk on "Kitchen Conveniences" by Miss Mildred Veitch of the Better Farming Section of the North Dakota Experiment Station. One lady was heard to remark after this talk was over that she intended to make her kitchen a little handier every year. She said she believed that women had just as much right to improved labor saving machinery in the kitchen as the men had in their outdoor work.

Alfalfa and Livestock

After the fields had been inspected and everybody had had a drink of fresh lemonade, a discussion was held on alfalfa—the method of growing it on the soil, such as that at McLeod, was minutely discussed. Several farmers are beginning to grow alfalfa this year and several more said they would plan to put in quite an acreage next year. After

the alfalfa discussion, Mr. J. C. Hoke was introduced as a farmer from Illinois assisting Director Cooper of the Better Farming Section of the N. D. Experiment Station for the past year. He discussed livestock and their place on the farm in the vicinity of McLeod. He particularly emphasized the fact that they should go into livestock on a modern basis. That is, that they should use one breed of cattle and one breed of hogs, whatever their preference was, whether Holstein or Shorthorn, Poland China or Yorkshire. He showed that in that manner good sires might be obtained at no greater cost than scrub sires generally used, that the profits growing one grade of livestock would be a great deal greater than with mixed breeds where indiscriminate blending of the breeds was practiced. For instance, if everybody was growing and breeding Holstein cows in the vicinity of McLeod, when buyers would want cows of that breed they would go to McLeod to get them as they would then be sure to get what they wanted at the minimum of expense. One farmer was heard to remark that he came to the Demonstration Farm picnic at McLeod out of curiosity, but he believed he had learned one or two things which would make his farm at home much more profitable than it has previously been.

CONCRETE DRAIN TILE

The constantly increasing value of farm land is compelling the farmer to utilize every available foot of his

premises. Fields formerly swampy or under water are being drained and used. This has led to a constantly increasing demand for drain tile of all sizes.

The farmer, however, often finds it difficult to procure drain tile which will meet his needs. The ordinary clay tile has, in a majority of cases, to be shipped from some distant point, with consequent loss due to transportation charges and breakage. To overcome this difficulty cement-concrete tile are now being made where used. The owner of the farm is often fortunate enough to have an ample supply of sand and gravel, either on his own land or nearby. These two comprise the bulk of the materials used in the manufacture of concrete tile. For the smaller sizes it is not necessary to have gravel, as only Portland cement and sand are used.

A Portland cement of any standard brand will be suitable. The sand should be clean and coarse, with the particles well graded from fine up to one-fourth inch in size. If gravel is used for very large pipes, it should be clean and also well graded in size, the pebbles running from one-fourth inch to three-fourths inch in diameter. When only cement and sand are used the concrete should be mixed in the proportion of one part Portland cement to two and one-half or three parts sand, measuring these materials by volume. For measuring purposes it is safe to assume that one bag of cement is one cubic foot. In very large sizes of pipe where gravel can be used, the concrete should be mixed in the proportion of one part Portland cement to two parts sand to four parts

SEED WANTED

We are in the market for North Dakota grown TIMOTHY, CLOVER, ALFALFA, BROMUS and MILLET of all varieties.

Send us samples of any high grade grass seed or seed grain you have for sale, and we will make bid on same F. O. B. your station. WRITE US TODAY.

FARGO SEED HOUSE

Fargo,

North Dakota

DAKOTA WELDING & MFG. COMPANY

Large Welding Plant and Machine Shop

Expert welders and machinists of ALUMINUM gear and crank cases; manifolds and housings; CAST-IRON and cracked sectional boilers; cracked or broken cylinders or water jackets; STEEL frames or any broken parts of automobiles or other machinery. We weld cracked steam boilers with our large portable plant at your home.

201 FIFTH ST. NORTH

Phone 926

FARGO, NORTH DAKOTA

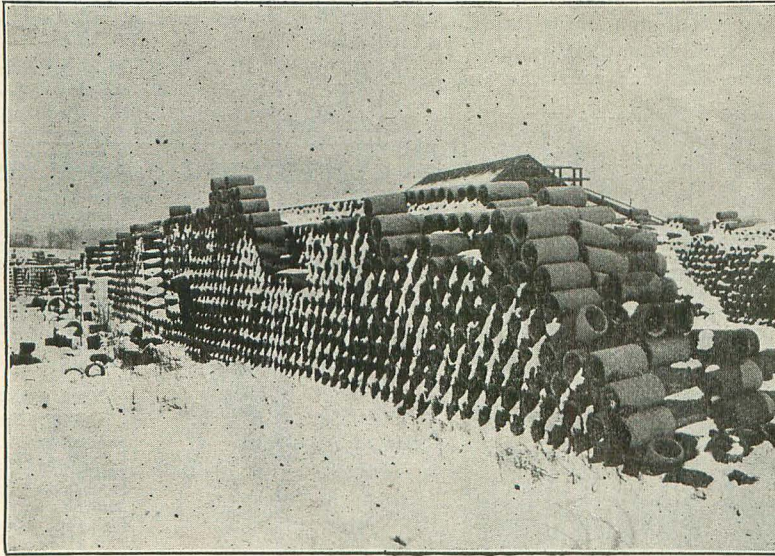
gravel. For most farmers a simple hand-mold for making pipe will be sufficient. These hand-molds are inexpensive and turn out pipe quite

cement should be thoroly mixed in the dry state, so that no streakiness or unevenness of color can be seen. When this is accomplished the water should

mix is used so that the fresh concrete will hold its shape when the molds are removed.

Making the Pipe

Before starting to mix the concrete the molds should be set in place on a level and solidly supported board platform. In setting up the molds the directions contained in the printed matter accompanying them should be followed. The surfaces of the molds which come in contact with the concrete should be well oiled with a heavy lubricating oil, which will prevent the fresh concrete from adhering to the iron. Deposit two or three inches of concrete in the molds and then commence the tamping. This tamping is accomplished by a long-handled tamper furnished with the molds, and so designed as to pass easily between the inner and outer mold. Continue depositing and tamping the concrete until the mold is full. Be careful to fill the mold gradually. If half filled with concrete at the start and then tamped this will not result in a strong and uniform pipe. The tamping should be done continuously from the time the first concrete is deposited until the mold is full. When the concrete reaches the top it should be struck off to a smooth even surface with a trowel or float. As soon as it is de-



rapidly when properly operated. The molds consist of two cylinders of sheet iron, one set within the other. The inside cylinder is collapsible and the outside cylinder can be removed in sections. When hand-molds are used it is good practice to make up the tile during the winter, doing the mixing and placing of the concrete indoors, where there will be no danger of freezing. After the tile have become well hardened, say in about two weeks or one month, they can be placed outdoors until used. In this way the required number will be ready for laying by the time the frost is out of the ground.

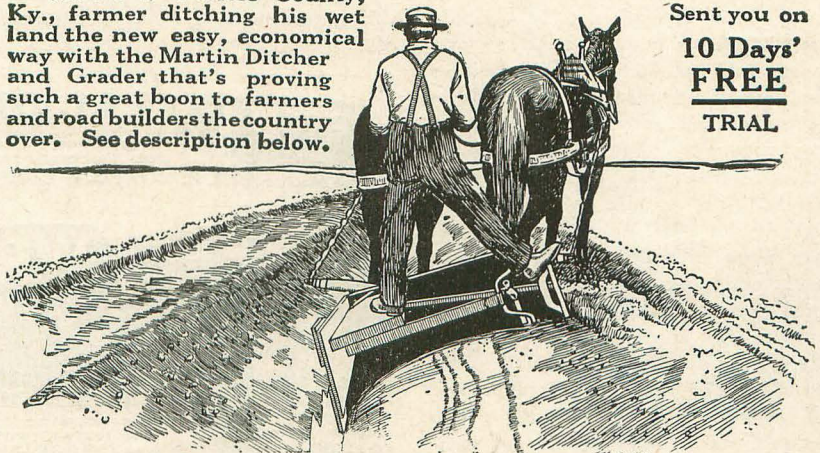
Mixing the Concrete

The first requisite for the proper mixing of concrete is a well-made mixing board or platform. This platform should be made of boards carefully matched, in order that good tight joints will result. This will prevent any waste of cement and water from leaking thru. A mixing platform ten feet square will be large enough for all ordinary purposes. It is well to nail around the outside of the board a strip one inch in height, which will prevent the concrete from working over the edges. The tools necessary for mixing are generally at hand on all farms. They consist of shovels, rakes, and hoes, and one or two water buckets. It is convenient to construct a bottomless measuring box for measuring the sand and gravel. The size of this box is determined by the proportions to be used. For a mixture of one part cement to three parts sand, the measuring box should contain three cubic feet. The sand and

be added, taking care that too much is not applied at first. The mixture should then be turned and mixed until a paste of even consistency results. For use in tile work the concrete should not be too wet. It should be what is called a dry mix. This dry

New Way To Ditch Wet Land And Grade Roads Much Cheaper

Here's a Daviess County, Ky., farmer ditching his wet land the new easy, economical way with the Martin Ditcher and Grader that's proving such a great boon to farmers and road builders the country over. See description below.



Sent you on
**10 Days'
FREE
TRIAL**

This combined Farm Ditcher and Road Grader is certainly a money-maker on the farm or road section. Does as much ditching or road grading in 1 day with 1 team and 1 man as 50 to 100 men with shovels, or 10 men and teams with plows, scoops, etc. Ideal for covering tile, cutting bed furrows, filling gullies, cleaning out old ditches and levee work.

Quickly Pays for Itself

Besides greatly increasing your crop and land value, you can make big money hiring it out when your team and hired help might otherwise be idle. Pays for itself in 1 to 3 days. Works in any kind of ground and does nice even work.

Best of all, the price is only one-fifth of the big, clumsy, costly ones. Can even be used where they can't. Very simple. Fool-proof. Anybody can run it. All steel. Reversible. Lasts life time—no cogs or wheels to break. Sent on 10 days' free trial. Money back guarantee. Write for free descriptive book, testimonials, prices, terms, etc.
OWENSBORO DITCHER & GRADER CO., Inc.
104 Allen St., Owensboro, Ky.

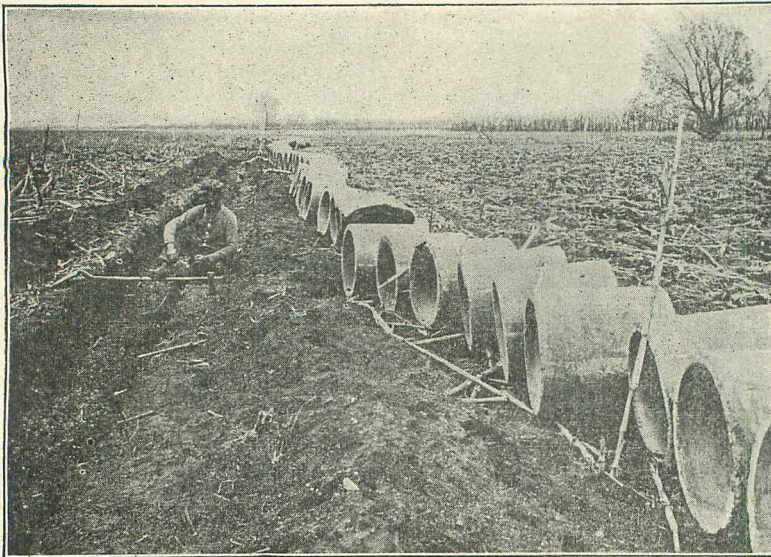
OWENSBORO DITCHER & GRADER CO., Owensboro, Ky.
Send free Descriptive Booklet, Prices, Terms, Etc.:

Name
Post Office
R. F. D. State.....

posited and tamping is completed the molds can be removed. In doing this care should be taken to avoid jarring the fresh concrete, as this might result in the collapse of the pipe.

Curing the Pipe

After the molds are removed the pipe should be allowed to rest undis-



turbed for 24 hours. They should then be kept wet by means of sprinkling or covering with burlap or rough cloth. Keep the covering moist. The pipe should not be allowed to dry out for at least one week. It will be found that this "curing" will add greatly to the strength and durability of the pipe. After thoro curing the pipe can be removed to the storage place. They should not be roughly handled, however, until one or two months of age. During the winter time it is best to protect the tile from freezing temperature until one month after making. Hand-molds may be obtained for making either plain straight pipe or pipe with bell and spigot ends. Bell end pipe are somewhat more difficult to make. There are several machines on the market which run by power and which turn out tile in much larger quantities than can be done with the small hand-molds. These machines are costly and would be necessary only where the quantity of pipe would be sufficiently large to warrant the extra expenditure.

In conclusion, success in this undertaking, as in every other form of concrete construction, depends upon the selection of proper materials and careful and thoro workmanship.

THE HOT WINDS

The hot winds visited this section of the state the first of the

week. The light rain of Tuesday evening, however, came just in time to break the dry spell and save the crops. It is to be hoped the farmers of the state will give more attention in the next few years to the planting of trees around their farms and shelter-belts across their farms. The experience of other countries and of

portions of the United States shows conclusively that shelter-belts will protect crops from these hot south winds. Experiments have shown that groves will protect crops for a distance of one rod for each foot of height of the tree making up the shelter-belt. In portions of Russia they plant the Siberian Pea tree, or Caragana, so as to cross the lines of the prevailing hot winds at distances of fifteen or twenty rods between the



READ THIS

There must be a reason why there is such a demand for Justin's Boots. If you are going to wear boots, why not wear the best? Yours for the Best Cowboy Boots Made. Send us your address on a postal card and we will send you our catalogue, and self-measuring system.

GIVE US A TRIAL

H. J. JUSTIN & SONS
Mfgs. of Justin's Celebrated Cowboy Boots. NOCONA, TEXAS

A\$45 Saddle, \$34 Cash



Our latest Swell Fork Saddle, 14-inch swell front, 28-in. wool-lined skirt, 3-in. stirrup leather, ¾ rig, made of best oak leather, guaranteed beef hide covered solid steel fork.

THE FRED MUELLER

Saddle & Harness Co., Dept. R, 1418-15-17-19 Larimer St. Denver, Colo. Send in your name for our catalogue now ready.



BIG MONEY in the OFF SEASON

One Man can run it.

Earn \$2000.00 a year extra money, besides your regular farm work, with the

Improved Powers Boring and Drilling Machine.

Bores a well 100 ft. deep in 10 hours. One man can run it; a team operates it and easily moves over any road. Bores everything except hard rock, and it drills that. No tower or staking; rotates its own drill. Easy terms; write for catalog.

Lisle Mfg. Co.
Box 540 Clarinda, Iowa.

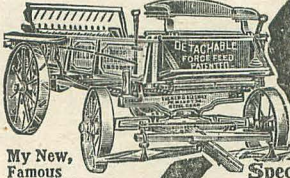
Please Mention the N. D. F. When Writing Advertisers.



WELL DRILLING MACHINERY

MAKE BIG MONEY drilling wells. Steady demand. Our machines make deep or shallow wells of all kinds in all kinds of soil. Fast workers and easily operated. Most improved in every way. Write for our free catalog.

R. R. HOWELL & COMPANY, Manufacturers, MINNEAPOLIS, MINN.



WRITE ME TODAY

Get My New Low Prices \$64⁷⁵ Up

Complete Galloway Spreaders.

Special No Money Down—No Bank Deposit Offer

Go where you please, look where you please, you will never find a fairer, squarer offer or a lower price on a guaranteed manure spreader. Any responsible person can get a Galloway Spreader—no money down, no bank deposit—a strictly 30-day free trial on your own farm with the money right in your own pocket. All I ask is your Bank reference. If high quality, low price, liberal terms mean anything to you, I can interest you. Yes sir, you can get any one of my nine different styles, put it right to work in your field for thirty days, test it any way you please, it's got to suit you or you can return it and the trial won't cost you a cent. Can you beat this offer?

My Direct from Factory Plan Saves You \$25 to \$45

Over 20,000 Galloway Spreader owners have profited by it. So can you. No dealers' agents' or jobbers' profits or salesmen's expenses and bad debts to pay on my plan. Get my catalog. It tells you all about my 9 styles of spreaders; about my eleven distinct patented features, attachment spreaders that will fit your own farm truck, only \$9.50 and up; complete spreader with detachable trucks, \$64.75 and up; or my New Low-Down and Big Complete 80-B-1 Spreader.

Write for Free Catalog and Offer Now

Don't wait. Save big money. My special cooperative offer will help you get your spreader partly or entirely without cost.

Wm. Galloway, Pres., Wm. Galloway Co.
989 Galloway Station, Waterloo, Iowa

Here is My New, Low-Down, Semi-Underling Spreader—the Best Low-Down, Light-Draft, Two-Horse Spreader Ever Built.

Get My Low Price

rows. Where higher trees are used the shelter belts may be farther apart. In portions of Iowa, where the instructions of the Iowa Agricultural College were carried out, the farmers started several years ago to plant shelter belts. The result has been entirely satisfactory and where sufficient areas have been protected they have no more loss of crops due to the hot winds.

Many different views have been advanced to account for the origin of these hot winds. For many years it was believed they originated on the arid stacked plains, moved northward, sucking the moisture from the vegetation as they swept over the prairie states, and left the ruined crops in their wake. As to their movement and destructiveness there is no room for argument. We are all painfully aware of their results. A second theory as to their origin is that they come from west of the Rocks Mountains, lose their moisture in crossing, and descend on the eastern slopes. Prof. Samuel B. Green in commenting on these theories says: "But all theories that ascribe their origin to a distance source are inadequate to explain their phenomena. For instance, all who are acquainted with these winds know that they blow only during very dry weather, when the earth is heated very hot, that a good rain speedily brings them to an end, and that they blow only during the day time, commencing about 9 a. m. and continuing until sundown. This daily movement is often constant for several weeks, showing that there is evidently some connection between them and the course of the sun. For these reasons and others which would require too much space to give here, the best authorities unite in attributing them to local origin.

Mr. George C. Curtiss describes the process of the production of a typical hot wind as follows: "The necessary conditions are those of the 'warm wave' namely, a diminishing pressure to the northward, producing southerly winds which initially elevate the temperature above the normal. A cloudless sky favors an intense insolation, as a result of which the dry ground is soon raised to an extreme temperature, and the air is heated from it by radiation, reflection, and conduction. The resulting diminution of density due to the rise of temperature furnishes impetus to previously existing horizontal currents, and by ten o'clock in the morning the hot wind is fully developed. Hundreds of miles of hot dry earth contribute to maintain and feed the current, and gathering strength as the sun mounts higher, the hot wind sweeps over the defence-

less prairie. Neither hills nor forests rise in its path to break its power or dispute its sway, and with no enemy save the tardy rain cloud, the fetid blast sucks out the life sap of the growing grain. It will be readily seen, then, that each state—Kansas, Nebraska, and North and South Dakota develops its own hot winds and cannot charge them to the account of its neighbors."

With this comprehension of the origin of these winds, the desirability for windbreaks and shelter-belts throughout our state is easily understood. This is the most practical method of protection against these destructive hot winds that has as yet been devised. With careful and systematic planting there is no doubt that the state of North Dakota could entirely free itself of any danger from these winds. Now is the time when we need to realize the importance of planting trees for this kind of protection. Next spring when we are rushing to get in our crops the hot winds will seem far away and we will be apt to forget the need of shelter-belts and apt to neglect the planting of trees. If it had not been for the fact that trees and small grain need to be planted at about the same time of the year, North Dakota would have long ago been properly protected from the hot winds of the summer and the chilly blasts of winter.

AN EXPERIENCED LIVESTOCK MAN

W. H. Peters, Professor of Animal Husbandry in the Manitoba Agricultural College, has been appointed Animal Husbandman at the North Dakota Experiment Station. He will devote his whole time to investigational work. Mr. Peter's work has been very successful in Canada. He

has developed the livestock department into the largest in the Agricultural College. The past year he had charge of two livestock demonstration trains in Manitoba, and assisted with the Livestock Demonstration Train run by the North Dakota Experiment Station.

The livestock interests are growing rapidly in North Dakota. Mr. Peter's experience under conditions quite similar to those in North Dakota, and his ability, fits him well for taking charge of this important work, in the North Dakota Experiment Station, which he will take up September 1st.

Agriculture in Congress

Representative Whaley has introduced a bill in the House providing for the establishment of a drainage fund for the construction of drainage works to reclaim wet, overflowed and swamp lands in the United States, in promotion of the general welfare to prevent the dissemination of malaria and other diseases.

Under the proposed law, the Secretary of Agriculture is given authority to make the necessary examinations and surveys and upon the completion of the works to turn them over to the owners of the adjoining lands who will be required to operate and maintain the works at their own expense. For carrying out the purposes of the proposed law an appropriation of \$10,000,000 is provided for. (H. R. 16022)

HARROW ATTACHMENT

Harrow while you plow. It saves time, labor and cost of harrowing. It harrows and levels the land at the same time, when it should be done. Send for prices and circular.

E. J. BRISS

Necedah, - - - Wisconsin



Our Estimating Department will give you Prompt Service

This Door \$1.60 Laid Down At Your Station

If shipped with lumber. We guarantee them to be first quality, clear fir, perfectly manufactured doors, sold to you at wholesale prices. Our millwork and lumber cannot be beaten for prices and quality.

FREE SHINGLES To introduce our special brand of high quality shingles we are going to give to every customer who orders lumber from us in the next six weeks 3,000 Extra *A* Red Cedar shingles. These shingles are absolutely free. We pay the freight, too. We want to introduce them into every section. That's why we make this unusual offer. Don't miss it.

MAIL US YOUR LUMBER LIST TODAY. GET OUR PRICES BEFORE YOU BUILD YOUR HOUSE, BARN OR GRANARY.

We give you genuine "Direct from the Mill" prices, saving you big money against all competition. You inspect before you accept our material.

WESTERN LUMBER & MILLWORK CO. INC.
PERKINS BLDG.
TACOMA WASHINGTON

Big Stocks on Hand insure Early Shipments.

North Dakota Farmer

Entered as second class matter in the postoffice at
Lisbon, North Dakota

PUBLISHED EVERY MONTH

W. G. CROCKER, PUBLISHER.
Lisbon, N. D.

E. F. Ladd, Editor **FARGO, N. D.**

BUSINESS MANAGEMENT, LISBON, N. D.

ASSOCIATE EDITORS

PROF. J. H. SHEPPERD, State Farm Notes.

PROF. W. B. RICHARDS, Livestock.

**PROF. C. B. WALDRON, Fruits, Forestry,
Insect pests.**

Remittances should be made by Draft, Post-
office Order or Express Order.

Address all business correspondence to the
Lisbon office.

Vol. 16 AUGUST, 1914 No. 3

Talk about vacation; how about
mother?

The farmer should be proud of his
calling for he is the custodian of the
greatest of Earth's natural resources—
the soil.

Making money is a laudable under-
taking, but to sacrifice honor for the
sake of money is getting it at too
great a price.

The silo is the herald of the new
prosperity. When the cow holds an
honored place in the community then
domestic comfort is assured.

Work is honorable but drudgery is
unnecessary. The latter can be over-
come by applying brains to the ordi-
nary tasks that must be performed.

A man that will speculate on his in-
tegrity has no business to expect a
successful career. He may make a lot
of money but he will never be a suc-
cessful man.

The young man that secures a piece
of land and applies to it the principles
of production will become independ-
ent, a condition that, outside of farm-
ing, is becoming more and more diffi-
cult of attainment.

There is no substitute for honesty.
A good many fellows have tried to
find one but failed and are now lan-
guishing in jails or in the penitentiary
as the result of a neverfailing experi-
ment. Be honest.

Co-operation is the life of any in-
dustry. By means of organization
thousands of men working along simi-

lar lines as in farming become ac-
quainted with the best methods and
best thought of all.

The teaching of dairying will in the
near future occupy a far higher place
in the higher institutions of learning,
to say nothing of the secondary
schools, than the teaching of the dead
languages—and the reason for this
change will not have to be defended
by argument.

There is still a very large class of
American citizens who consider it
necessary to have a horde of "dubs"
to respond cheerfully and gladly to
their beck and call. In this country
however there is no necessity for be-
ing a peasant or servant in the Euro-
pean sense and those that lower the
dignity of their labor to that plane
have only themselves to blame for
many of the ills they compalin of.

Funny, isn't it, that an all wheat
farmer after years of failure and par-
tial failure of the wheat crop on ac-
count of drought (weeds) blight, smut,
rust, etc., interspersed with an oc-
casional bumper crop, will become ut-
terly discouraged the first time any
calamity befalls his livestock. Hog
cholera is a bad thing, but it is no
worse than a hail storm or a severe
dose of black rust. Moreover, if tak-
en in time hog cholera is preventable
and when the disease is in its first
stages, curable.

In irrigation states quite as much
information is furnished on the subject
of using water to the best advantage
as the semi-arid states furnish on the
subject of moisture conservation.
From the best data at hand, however,
it would seem that too much water is
even worse than too little water, for
in that case the fertility of the soil is
carried away in the "run off" and lost
while too little water at least does not
waste any fertility. North Dakota is
admirably situated as regards moisture
for there is seldom enough precipi-
tation at any one time to carry away
much fertility and always enough to
insure a crop, so far as moisture is
concerned, provided poor cultivation
does not waste it on account of evapo-
ration, and weeds are not permitted to
steal it away from the growing crop.

A nation in which the agricultural
and labor interests predominate, as in
the United States, no criticism of the
government should come from the
majority elements. If the government
is not satisfactory they should charge
it all up to their own stupidity and
not to the men whom they elect to

office but who do not represent them
or their interests. How do they ex-
pect to be represented when they
chose men representative of other in-
terests or who are politicians pure and
simple, to make their laws and to
manage their government? And just
this is what is done every year. We
whoop it up for the fellow chosen by
the politicians, not because he is a
man, but because he is a shrewd cun-
ning chap who guarantees to give us
the platform but **them** the emolu-
ments.

But few farmers fully appreciate the
agricultural advantages that North
Dakota offers until they have been de-
luded into exchanging their land here
for a Canadian farm or a fruit ranch
on the Pacific coast. Those returning
from the far northwest seem awful
glad to get back to God's country
even tho they have to charge up quite
an item to "profit and loss" as the re-
sult of their experience. Since no
state contains a better average soil nor
a more suitable climate for the pro-
duction of wheat, flax, and most
other cereals, to say nothing of dairy-
ing and livestock possibilities, it stands
to reason that a careful study of local
conditions and compliance with the
natural laws that govern plant and
animal growth is all that is necessary
to insure abundant prosperity, to the
industrious, painstaking farmer.

IT HAS HAPPENED AT LAST

Ever since the founding of the North
Dakota Farmer we have urged the es-
tablishment of a factory for the canning
of sweet corn. Time and again we have
brought to the notice of our readers the
folly of sending as far east as the state
of Maine for canned sweet corn, which
could just as well have been put up
within the borders of our own state.

The Sheyenne Valley Canning Com-
pany, of Lisbon, North Dakota, has
started operations and we predict an
output of canned corn equaling in
quality that of any other factory in the
country.

Before a single can was put out by
this company, orders were received
from the Fargo Mercantile Company
for six carloads.

This company has already erected a
three-story factory equipped with the
latest sanitary appliances and every
effort is being made to put out a product
that will be a credit to the state, and
will also pay well the large number of
farmers supplying the material.

It is with great pleasure and satis-
faction that we welcome the advertise-
ment of the firm to our Pure Food page.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.
ASK YOUR GROCER FOR THEM.

"BUY"

"EAT"

HOME BRAND

Pure Food Products

"ECONOMY" "SATISFACTION"

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS,

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY

DR. PRICE'S
JELLY

DESSERT
NUTRITIOUS-WHOLESOME

One package, 10 cents, makes one pint of wholesome Fruit Jelly. All flavors from true fruits.

The Purest of Pure Food Products

are packed under the Brands of

Nokomis
PURE FOODS

Blue Bird
PURE FOODS

Hiawatha
PURE FOODS

Wampum
PURE FOODS

Stone-Ordean-Wells Company
DULUTH, MINN.

BRANCH HOUSES-Minot, Bismarck, N. D. Billings, Boxeman,
Butte, Great Falls, Mont.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO CHICAGO.

Eat North Dakota Sweet Corn

Sanitary

PACKED BY
ONLY
FACTORY OF
ITS KIND IN
THE STATE.
SEALED IN
SANITARY
CANS AT
OUR
MODERN
THREE-
STORY
FACTORY



Delicious

NORTH
DAKOTA
CORN
EXCELS IN
SWEETNESS.

ASK YOUR
GROCER
FOR OUR
BRAND.

WRITE FOR
PARTICU-
LARS

Shenoyenne Valley Canning Co.

- Lisbon, N. D.

Livestock Department

STOCK AND FARM NOTES

N. J. Shepherd

Separating cold milk means a loss of cream.

The shorter the fattening period the greater the profit.

Low headed trees are easier to prune, spray and pick.

Evenness of wool depends upon evenness of condition of the sheep.

Allowing unnecessary limbs to grow is a great waste of plant energy.

Health, vigor and activity with all stock are essential for prolific breeding.

While the pigs are suckling feeding the sow means feeding the pigs.

A hog is half made when past the weaning period without a stunt in its growth.

Pigs from mature sires and dams grow faster and feed better everything else being equal.

When a sheep is thriving wool grows rapidly; when a sheep is declining wool growth is checked.

The time the lambs should be dropped depends upon the equipment one has for raising them.

A poor cow in the hands of a good dairyman will give better returns than a good one with mistreatment.

Weak sheep cannot produce good strong lambs; neither can they give good returns in the feed lot.

A hog that leaves food in trough or pen is not using his feed to the best advantage.

Frequent stirring of ripening cream will make a better flavored butter, as it causes the cream to ripen more evenly.

The beauty of the dairy is that if it is well managed it brings an income every day in the year.

When selecting sheep for breeding beware of the long-legged, rangy breeds. Get those that are close to the ground.

As a rule, in a hog, coarse wiry hair is an indication of strong bone and little tendency to put on fat.

At weaning time the ewes should be put on drier pasture or fed on dry feed for two or three days.

The most economical feeding that can be practiced is the feeding of the individual to her full capacity for milk production.

It should not be overlooked that the sweetest and tenderest meat is always produced when the fattening is done quickly.

A large coarse ram will usually not breed as uniform a lot of lambs as one of more medium size or more compactly or smoothly built.

The breeding will always represent half the value of the breeding power of the herd if it is desired to grow calves for the dairy.

A permanent agriculture can only be maintained by fertile farms, and the dairy cow stands as a pre-eminent factor today in maintaining and increasing sire fertility.

If the tree is so formed as to carry an open head the sunlight is admitted to the center of the tree, the fruit colors better and it is more attractive.

There is a limit as to how much feed a cow can utilize at a profit, just the same as there is a limit as to how much grain she can consume without injuring her digestive system.

Mottled butter is sometimes due to improper working. It is sometimes due to uneven distribution of the salt, and sometimes to the fact that all of the casein has not been thoroughly washed out.

To secure the best returns from sheep raising it is not necessary to keep them exclusive of all other livestock, but a small flock, just what can be conveniently accommodated along

with other farm animals and given the best of care.

Hogs should be grown and fattened in the shortest time consistent, upon feeds which are at all times the minimum of expense to the farmer, but at the same time capable of fitting them for market in prime condition. The cheaper, better and quicker this can be accomplished is the prime factor in determining the extent of our profits from hogs.

HOG CHOLERA

J. G. Haney, Grand Forks, N. D.

While North Dakota is not yet really on the map as a hog state, there is no question but that we are headed that way, and going very rapidly. There never was a time when there were more hogs in North Dakota, nor more interest being shown in their breeding and raising. Also last year there was considerable hog cholera, in fact more of it last year in the Northwestern states than in any other section of the country, and there is no reason to hope that we will not have another scourge of it this fall.

Hog cholera causes more losses to the farmers of the United States than any other diseases among animals. The prevention of hog cholera by the use of serum and virus has advanced to such a stage that if proper precautions are taken there need not be over 10 to 15 per cent of the loss that is usually sustained.

**A Big Surprise for You
On Cream Separators**

Stop! Look! Listen!

The cream separator rush is on. Orders are piling in thick and fast. My factory is working to the limit making 35,000 separators this year. That means my price to you for one separator is based on 35,000. It means that this is your opportunity to get the best made, neatest designed, closest skimming, easiest operating separator made at a price that has competition on the run.

GALLOWAY

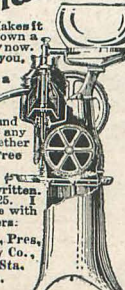
New Credit Plan

Makes it easy to own a separator. Buy now. Pay later. I'll trust you. Five different plans. The Galloway separator is a mechanical masterpiece. Skims closer and faster. Dust-proof enclosed gears, run in constant bath of oil. Sold on 30 days trial and I'll back it against any make at any price and let you be the judge whether it's up to claims. Dairy Manual Free

BIG CATALOG FREE

Only complete dairy book ever written. Worth \$1.25. I send it free with special offer:

Wm. Galloway, Pres.,
Wm. Galloway Co.,
983 Galloway Sta.,
Waterloo, Ia.



Warranted to Give Satisfaction.

**Gombault's
Caustic Balsam**



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeny, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
Thrush, Diphtheria. Removes all
Bunches from Horses or Cattle.

**As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.**
Every bottle of Caustic Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Hog cholera is a disease caused by a germ so small that it has never yet been seen, even by the highest powered microscope. The only way to keep hogs from having the hog cholera is to keep these germs away from them, or vaccinate them so that the germs will not have any effect on them. As it is absolutely necessary for these germs to be brought to your hogs in some form, and they do not fly thru the air, it is largely a question of being careful and keeping these germs away.

How the Cholera Germs are Carried to Your Farm

The following are some of the most common ways by which hog cholera is carried from farm to farm:

1. By owners of the diseased hogs.
2. By the purchase of new stock.
3. By dogs, cats and other animals.
4. By pigeons, crows, buzzards and other birds.
5. By pasturing well hogs adjacent to sick ones.
6. By infected streams.
7. By hunters, hog buyers and visitors.
8. By exchange work.
9. By the wheels of vehicles.

Hog Cholera is a Preventable Disease, the Following are Some of the Methods of Prevention

1. Clean up the hog pens.
2. Use the dipping vat.
3. Keep hogs free from worms and lice.
4. Keep wood ashes, slacked lime, and soft coal in the hog lot.
5. Provide a pasture for summer of alfalfa or clover and hay for winter feed.
6. Fill up the hog wallow—provide bath tubs. (Germs live for months in filthy hog wallows.)
7. Vaccinate hogs exposed to cholera, using only serum furnished by laboratories operating under Federal or State license.
8. Separate sick hogs from well ones.
9. Kill and burn hogs seriously sick with cholera.
10. If your hogs have cholera, stay at home.
11. If your neighbors' hogs have it, stay away.
12. Keep dogs and cats at home.
13. Shoot pigeons, crows and other birds which fly from farm to farm.
14. Keep hogs away from running streams, especially if there is cholera in the neighborhood.
15. Question the hog buyer—find out where he has been before allowing him to go in your hog lot.
16. No germs—no cholera.

Stay Away from Premises Where Hogs are Sick

If your hogs are sick and you don't know what ails them, stay at home, or thoroly disinfect before leaving the farm. Don't take any chances of spreading it. Be as careful as you would want your neighbor to be.

Prepare to Fight Cholera

Don't wait until cholera reaches your neighborhood. The first thing to do is to organize your township. Call a meeting of your neighbors and have them join in a call for a township meeting.

All join in seeing that no hogs from farms where there is cholera are driven or hauled along the highway. It is contrary to the laws of most states to haul them along the highway, and this law should be enforced strictly during an epidemic of hog cholera. It seems hard for one man to lose his hogs, when he might sell them if he could deliver them in town, but it is a mighty sight worse for the community to have the disease scattered along the highway to be picked up on the feet of people, horses, dogs and other animals and carried to the farms. If all or three-fourths of the people in a township will get together and go right after the matter they can do a whole lot to keep cholera out of it.

If Hog Cholera—What?

Put at your gate a hog cholera sign, so your neighbors may have an opportunity to take extra precautions. Notify your neighborhood or township organization. Tell the local editor to put it in the paper. Give your neighbors every chance to protect their herds.

Be Careful When You Vaccinate

This is a much discussed question. Some results have been disastrous, but where the work has been done in time, with good vaccine, and by skilled men, it has been remarkably successful. But to be of practically any value the vaccinating must be done before the hogs treated show any signs of having the disease. The excitement of catching, holding and vaccinating after they are sick is as injurious as the treatment generally is beneficial.

This is one reason why you should kill and carefully examine the first hog that shows any of the symptoms of having cholera. If you find that

BARN EQUIPMENT

Make your barn look new by putting in cow stanchions and stalls. Get my low prices on them. Write today for free circular.

E. J. BRISS

Necedah, - - - Wisconsin

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

POLAND CHINA PIGS, also Shropshire sheep Seed grain. GEO. N. SMITH, Amenla, N. D.

ASH GROVE FARM. Knudtson & Son, Props. Breeders of Pure Bred Percheron Horses and Short Horn Cattle, Both Sexes. Stock for Sale. Route 1 Fullerton, N. D.

J. S. BIXBY
RED POLL CATTLE. If you want dual-purpose cattle, I have the best. Rhode Island Reds, also in stock. LISBON NORTH DAKOTA

Mulefoot Hogs are Healthy, Hardy and Prolific. Jno. Dunlap, Breeder, Williamsport, Ohio.

SHORT HORNS
Young stock for sale. All registered. Jim Uglum, - - - Bowbells, N. D.

Maple Lodge Large Registered Yorkshire Pigs, \$9 to \$12. Sired by Egeland Valliant weight 600 pounds.
Bourbon Red Turkeys, \$1.75 to \$3.
Partridge Wyandottes, Eggs and Stock, \$1.50
Good Winter Layers All Stock Guaranteed
EDWARD KLEBAUM, - Egeland, N. D.

REGISTERED POLLED SHORTHORN CATTLE AND BOURBON RED TURKEYS.
Some good young Bulls for Sale.
Odessa Stock Farm, - Devils Lake, N. D.

Meadowlawn Farm. The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: A. H. WHITE, - - - Kramer, N. D.

For Large Yorkshires of either sex and bred gilts, address L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.

Choice Poland China Hogs always on hand. Bred Gilts all sold, Register now for spring pigs, either sex; prices right. Thos. Forbes, Petersburg, N. D.

HIGH GRADE LIVESTOCK: Clydesdales, Double-standard Polled Durhams. Farm Horses and Drivers. Leal Stock Farm, - - - Leal N. D.

PERCHERONS FOR SALE

We are offering a choice lot of young mares and stallions, all raised here on the farm and thoroly acclimated.

WHITE BROTHERS
Valley City - - - North Dakota

ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

MISCELLANEOUS

WANTED. Live Foxes, Skunks, Mink and Badgers, any time.
Envilla Stock Farm, - - - Cogswell, N. D.

WANTED to hear from owner of good farm for sale. Send description and cash price.
D. F. Bush, Minneapolis, Minn.

LADY AGENTS, to represent us, placing our fine collection of Perennials in every city and town, for fall planting. Address Wm. Pfander, Jr., Prop., Pioneer Nursery, New Ulm, Minn.

FOR SALE: 45 Horse, 4 Cylinder, Eagle Traction Engine; nearly new for \$600.00.
F. Jaskowski, - - - Bismarck, N. D.

FILMS DEVELOPED, 10 cents (any size). Prints or Post Cards, 3 cents each. Ansco films at list price, sent post paid. One of the largest finishers in this country. Thirty years' experience.
RITCHIE BROTHERS

Dept. 2, - - - Centralia, Ill.

GIVE GERMAN DISTEMPER REMEDY a Trial. Your money back if not satisfied.
German Distemper Remedy Co., Goshen, Ind.

he has it, you can vaccinate the others before they get sick.

Two Methods of Vaccination

Two materials are used in the work. One is called serum. It is the material that counteracts, or holds in check the cholera germs in the hog, when he gets them in his system.

Serum is a portion of the blood from the veins of a hog that has had the cholera so severely that he is what is called immune; that is, will not have it again. This blood, or serum, when injected into the veins of a hog not yet sick, has the effect of fighting off, or overcoming in some way the effect of the cholera germs in the same hog, for a period of about four weeks, after the hog is vaccinated with the serum. But it is not safe to rely on it for more than four to six weeks. Then vaccinate again with more serum unless you use the two treatments described later.

Properly prepared serum never causes cholera and never can.

AGENTS WANTED in every county in Minnesota, North and South Dakota, to sell our hardy "Pioneer Quality" Nursey Stock. All or your spare time. Outfit free. Write for particulars and territory to Wm. Pfander, Jr., Prop. Pioneer Nursery, New Ulm, Minn.

For Sale Registered Jersey Bull ten months old. If interested write W. G. WEEKS, BUCKOO, N. D.

Grade Up

Buy a Thoroughbred Jersey Bull

You can buy cows of high producing value or you may develop them. The bull is the most important factor in development. A thoroughbred Jersey bull pays big returns on his cost every year. Let us send you some Jersey facts.

The American Jersey Cattle Club
324 West 23d Street, New York City



IF YOU WANT

A Bargain in a Farm in central Missouri Near a Good R. R. Town Write

A. P. WEAVER
ELDEN - - - - MO.

GREAT MUSIC OFFER

Send postal to-day for a catalog of the famous "Century Edition" sheet music containing nearly 2000 Popular Classic vocal and instrumental selections

10c A COPY 10c.

We will send any selection from the catalog at 10c, each and guarantee satisfaction or refund your money. Published prices 25c. to \$1.00 a copy.

WESTLAND EDUCATOR, Lisbon N. D.

Nor does the serum cause ulcers, sores or lameness, but if injected thru a filthy syringe, or without cleansing the skin before sticking the needle in, or if the hog gets into a dirty pen or wallow before the place heals, sores or lameness may result, but the serum does not cause such results.

Caution in the Use of Virus

The other material which you can use at the same time you use the serum is called virus.

Virus is blood from a hog that is sick with cholera. Remember, if you bring the virus on your farm it is simply many germs of cholera condensed in small space. If in using it even a drop is spilled, put a strong disinfectant on it at once or the germs may live for months and give cholera to the next crop of pigs.

Simultaneous Treatment

Virus is never used except when it is used with serum. A quantity of serum is injected in the neck or back of the point of the shoulder. The

germs in the virus give the hog the cholera, and the serum counteracts, so that very seldom a hog that is properly treated with good materials becomes dangerously sick, and generally recovers quickly. Virus should never be used except by a graduate veterinary, or a man who has had special training in veterinary surgery. A farmer ought not to use the serum until he has helped a trained man vaccinate a herd, but after he has done so he can use it successfully, if he has the instruments and is careful.

The treatment with serum alone is called the "Serum Treatment," or single treatment. When serum and virus are used at the same time, it is called "Simultaneous Treatment," or double method.

PLOW TRUCK

Get this plow truck and make plowing easy. It will do the hardest work easier and quicker in the same time. Send for prices on truck.

E. J. BRISS
Necedah, - - - Wisconsin

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of Receipts and Shipments of Livestock for July, 1914

Receipts						
Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P.	91	126	1559	7	.....	32
C. G. W.....	608	440	3649	374	23	95
C. M. & St. P.	1978	796	14468	969	108	333
M. & St. L...	1889	778	9969	495	.....	237
C.,St.P.,&O...	1930	978	12222	1560	112	320
C. B. & Q....	286	155	823	168	.....	24
M.St.P.&S.S.M.	5869	2120	19580	1203	7	573
Gt. Nor.....	6715	3356	34300	8099	32	882
Nor. Pac.....	4665	1365	15370	6942	76	443
St. P. B. & T.	9	8	.....	.....	.....	1
Driven In....	496	195	1108	72	7	.....
Total.....	24536	10317	113048	19889	365	2940
Inc. over 1913	223	166	30112	6358	.....	466
Decrease.....	.....	.....	.....	.....	117	.....
Jan. 1 to date	192925	72959	885125	220903	2848	21955
Inc. over 1913	13308	.....	188042	65387	.....	3419
Decrease.....	.....	545	.....	.....	164	.....
Average Wts..	817	178	248	80	.....	.....

Shipments						
C. R. I. & P.	477	75	.....	.....	.....	19
C. G. W.....	1727	53	90	99	.....	64
C.M.& St.P...	3705	271	17587	75	51	320
M. & St. L...	717	1	666	.....	24	37
C.,St.P.,M.&O.	3505	390	3923	7023	9	172
C. B. & Q....	555	1	10096	3852	51	147
M.St.P.&S.S.M.	1104	3	.....	571	79	40
Gt. Nor.....	2158	409	52	107	52	70
Nor. Pac.....	1505	565	271	82	38	59
St. P. B. & T.	25	.....	.....	.....	.....	1
Driven Out..	619	284	294	73	69	.....
Total.....	16099	2052	32979	11882	373	929
Inc. over 1913	.....	670	15799	7758	.....	162
Decrease.....	1099	.....	.....	.....	37	.....
Jan. 1 to date	12454	16312	242329	153596	2901	7428
Inc. over 1913	1284	.....	78732	50473	.....	1244
Decrease.....	.....	784	.....	.....	56	.....

Hog cholera is fast coming under state and federal control, and there is no doubt that in a short time there will be ample laws for handling this disease, and that it will be largely stamped out. This is proven by the fact that in some counties in eastern states where they have been making special efforts, the loss has been reduced to only a fraction of what it was formerly. It is simply up to the farmers of the Northwest to study this subject from every angle possible, and take advantage of all the information that is available.

Hogs properly housed and cared for are less susceptible to this disease, and alfalfa pasture with good water and clean yards and sheds are among the means available to every farmer who wishes to avail himself of them.

There are bulletins published by the State Agricultural Colleges, and the Department of Agriculture that are free for distribution. The Agricultural Extension Department of the Harvester Company has also prepared a bulletin on this subject, which will be distributed free to anybody making inquiry.

This article has been prepared because of the fact that hog cholera has not been very prevalent in this section, but last year there was considerable loss. At the International Farm near Grand Forks, 70 head of shoats were bought last fall from a half a dozen farmers in the vicinity. After these had been in the pens about a week several of them were noticed to be ailing. As hog cholera had not been heard of in this vicinity no attention was paid to it until one of them died. This was examined and pronounced hog cholera, and serum was ordered immediately. After waiting for this hog to die, and the vaccine arrived more than one-third of the hogs were noticeably sick. They, of course, were all vaccinated, and all that were not sick at the time were saved.

There is absolutely no question about the value of vaccination, providing good serum is secured and properly administered. However, it is well for everyone to beware of especially the itinerant vaccinator. In South Dakota last fall there were thousands of head of hogs vaccinated at high prices, and when finally the Government made an investigation, it was found that what they were using for serum was nothing more nor less than prune juice with a little carbolic acid in it, and for virus they were using a preparation with a little iodine and diamond dyes in it. Of course, a great many of hogs vaccinated did not get sick, because of the fact that they were perhaps never

exposed to hog cholera. If serum or virus is to be used proper precautions must be observed or favorable results cannot be obtained.

THE MARGIN OF PROFIT

The difference between the purchase price and the selling price of an animal is called the margin of profit. This is usually estimated on the basis of 100 pounds live weight. Thus a margin of \$1.50 means that the feeder received \$1.50 per hundredweight more for the animals than he paid for them. The amount of margin is a very important factor in the profit from feeding steers. The margin required to break even in feeding operations depends upon a number of factors the principal ones being (1) the purchase price (2) the weight of the cattle purchased (3) the value of the feeds used (4) the gain in weight made by the animals and (5) the length of the feeding period. The higher the purchase price the heavier the steer when purchased the cheaper the feeds the greater the daily gains, and the shorter the feeding period,

the smaller the margin may be between the purchase price and the selling price of the cattle without loss to the feeder. With a steer of poor quality and with high-priced feeds the margin must of necessity be great but with the best quality of steers and with cheap feeds the necessary margin may be very small.

Every farm should have a field of alfalfa proportionate to the size of the farm, and the interest that is given to livestock.

THE BEST YET

NORTH DAKOTA FARMER

WOMAN'S WORLD

HOUSEHOLD

FARM LIFE

PEOPLE'S POPULAR MONTHLY

All Five, One Year, 80 Cents

Send Stamps or Money Order Now

NORTH DAKOTA FARMER

LISBON, - - - N. DAK.

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of the Origin and Disposition of Livestock for July, 1914

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota...	11941	8088	67411	6151	50	1676
Wisconsin....	2260	1358	5836	1798	.....	213
Iowa.....	290	.....	128	.....	132	21
Far South.....	1164	283	.....	.....	.....	30
So. Dakota....	993	90	6902	94	108	161
No. Dakota...	5892	459	24522	801	.....	609
Montana.....	88	.....	136	7180	75	35
Far West....	.....	.....	.....	3849	.....	13
Manitoba&NWT	1908	39	8103	16	.....	182
Far East.....	.....	.....	.....	.....	.....	.....
Returned....	.....	.....	.....	.....	.....	.....
Totals.....	24536	10317	113048	19889	365	2940

Disposition of Livestock						
So.St.PaulP'k'rs	8963	7368	79678	8003	.....	.....
City & St. Butch	452	80	1556	99	.....	36
Outside Packers	169	179	28512	.....	.....	314
Minnesota...	5681	834	813	689	185	198
Wisconsin....	1787	35	.....	546	115	64
Iowa.....	1729	148	527	.....	.....	65
Nebraska....	55	.....	.....	.....	.....	1
Kans. & Mo..	.....	.....	.....	.....	.....	.....
So.Dakota...	1238	6	9	278	2	33
No. Dakota...	1849	699	.....	12	.....	54
Mont. & West	1017	63	.....	.....	.....	27
Far South.....	.....	.....	.....	.....	.....	.....
Manitoba&NWT	.....	.....	.....	571	.....	3
Mich. & E. Can.....	.....	.....	.....	.....	.....	.....
Chicago.....	744	4	1562	9687	.....	87
Ills.(ex Chicago	621	4	.....	.....	.....	25
Eastern Points	757	.....	.....	.....	71	22
Returned....	.....	.....	.....	.....	.....	.....
Totals.....	16099	2052	32979	11882	373	929

Correction—In June report hogs to outside packers should read 37,990, instead of 34,127; hogs to Wisconsin should be erased.



Poultry Department



THE MOLTING PERIOD Michael K. Boyer

The molting period covers a space of about 100 days. That is, from the original start to the final growth of the new feathers, and the laying of eggs, will take that length of time. Sometimes hens complete the process and get back to laying in a shorter period, but such cases are more of an exception than the rule.

The proper time for molting to begin with young hens is August, and when they do start to make a change in that month they can be relied upon to do good winter laying. The summer molt (which at times happens during June and July) really is not a molt. It is a condition due to some mistake in housing. At least that is the opinion of the writer. If hens are crowded, especially in close houses, during the warm months, they sweat at night, and this is apt to eventually rot the feathers at the base, causing them to drop out. Or, if the fowls are heavily fed on a carbonaceous diet, it will have a tendency to cause this unhealthy condition.

Molting is often classed as a disease, but it does not belong there. It is a natural process. The new feathers are not manufactured by the hen, but are grown from the food she consumes, that food being converted into feathers instead of eggs.

This molting is more or less a drain upon the system, and it is important that the hen be kept comfortable and plentifully supplied with good food and pure water. If there is any constitutional weakness in a hen, she is pretty sure to develop it while undergoing this change of her coat.

The older the hen the later will be the commencement of the molt, and, consequently, the later will be the resumption of laying. A hen that does not shed her feathers until November or December, certainly cannot be of value as a winter layer.

Some years ago the Van Dresser method of hastening the molt was advocated, but while the process did hasten the molt it soon became apparent that it worked to the injury of future generations.

That method consisted in withholding food either wholly or in part for several days, so as to check egg-production and reduce the weight of the fowls. This was then followed by

heavy feeding of a suitable ration for the growth of feathers.

In the diet of molting fowls there should be occasional feeds of sunflower seed, and about five per cent linseed meal should be daily added to the morning mash. The food must be nutritious; green food is important; and the bill of fare should contain a variety.

When a hen receives a large supply of carbonaceous food she increases her fat without furnishing the necessary elements required for the new growth of feathers. In consequence, there is a general wasting away, inactivity of the bird, and death.

Attention must be given the birds at this period, and if they are properly cared for they will not only safely pass thru the molt, but they will complete the operation more quickly and much sooner come into profit.

As already stated, a molting hen is not necessarily a diseased one. So long as there are signs of a healthy state, it can be eaten in safety, but owing to the drain on the system, the juices and flavor of the meat, so prominent in a carcass in proper condition, are noticeably absent.

The Encyclopedia Britannica says a feather is more closely related to a scale than it is to a hair. Scientists tell us that it consists at first of an upwardly-projecting dermal papilla invested with epidermis, and it is only at a later stage that its base sinks into a sack or "feather follicle." The outermost layer of epidermis becomes converted into a horny sheath, which is thrown off when the feather is completed. Feathers are implanted on the body neither in an irregular nor in a uniform manner, but are aggregated together in different modes in different groups of birds—each definite patch of implanted feathers being called a feather tract. The arrangement of these tracts in a bird is called its "pterylosis" and serves amongst other characters to distinguish different groups of birds one from another.

A hen that is too fat, has not the power to renew its coat, while on the

other hand, one that is too poor is unable to shed hers. It is therefore important that either extreme be avoided. The life and vitality of the feather is lost when the ducts which nourish it have performed their work. Excessive laying, sickness, or starvation brings about this exhaustion prematurely.

MECHANICAL INJURY CAUSES GREAT LOSS TO EGG INDUSTRY

Unacceptable Classes of Eggs That Sometimes Find Their Way to Market

Mechanical injury to eggs, due to rough handling, causes a great loss to the egg industry every year, as well as a food loss to the consumers. Eggs that are completely wrecked (and termed "mashed," in commerce) are not only worthless themselves but they soil a number of eggs, otherwise good. When the shell is so broken that the contents are escaping the egg is termed a "leaker."

Another class of eggs which have a technical term applied to them because of mechanical injury are the "checks." "Checks" are eggs the membranes of which are intact but with cracked shells. The egg industry has to contend with an enormous number of these. If the crack or defect is visible only when the egg is held before a candle or when it is gently tapped against another sound egg it is called a "blind check." This tapping of one egg against another is called "clicking" by the egg men.

"Leakers" are thrown out at every stage of handling. The country merchant usually throws them away when

PETERSON'S Barred Rocks

SWEEPS FARGO CLEAN

Of all First and Special prizes. Once again my Barred Rocks prove their superiority at the North Dakota State Show at Fargo, Jan. 1914, by winning as follows:

1st, 2nd, 3rd Cock; 1st, 3rd, 4th Hen.
1st, 2nd, 3rd, 4th Cockerel.
1st, 2nd, 3rd, 4th Pullet; 1st Pen.
Cash special for best display and Silver medal for Best Barred Rock in the Show.
Circular free; it tells all about my fine matings. Write today

ENOCH J. PETERSON
Alexandria, - Minnesota
Formerly: Peterson Bros., Harwood, N. Dak

1900-C. C. DIBLEY & SON-1914

QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. **WOLVERTON, ROUTE 1, MINN.**

he discovers them, as do the egg peddler and the city retailer. They therefore constitute a total loss. "Checks" are sure to rot quickly when on the market for they are ready prey for any mold or germs that may chance to fall into the crack. They are usually disposed of as soon as possible and are likely to be found in greater numbers in markets near a section producing eggs. If found at a distance from a producing section a cracked egg is more than likely to be of very low quality. However, there are plenty of "checks" which are fresh and above reproach except for the damaged shell, but they must be handled carefully and rushed to the consumer as quickly as possible.

Dirt Outside No Indication of Bad Interior

The egg with a dirty shell is one of the most objectionable factors of the egg industry. However, it must be remembered that outer filth is not conclusive evidence that the contents of the eggs are infected. Of course if eggs have shells that are cracked as well as dirty they may well be regarded with suspicion.

The great drawback in the case of dirty-shell eggs is that they bring a lower price in the market altho the egg may be large and its contents fresh. Eggs with dirty shells do not store well. They are, therefore, not available for holding when the surplus production is great and when the market can secure more "clean" eggs than it needs. Often they scarcely pay the expense of marketing.

When shells are stained, as well as dirty, there is an indication that water as well as filth has come in contact with the egg shell, and such eggs when stale are often infested with bacteria that have gone thru the pores of the shell. Stains can not usually be washed off. Eggs that are to be kept should never be washed, as water will remove the natural coating that protects the contents of the egg.

The highest percentage of dirty-shell eggs occurs during wet spring weather. Since they do not keep well a large number find their way to egg-breaking establishments, as do the cracked eggs that are termed "checks."

Warm Weather and Stale Eggs

The egg dealer encounters enough unfavorable conditions resulting from bad weather without those that result from rough handling and mechanical injury. When warm weather prevails eggs go stale and many of them show what is termed "heat." This means that the yolk rises in the shell and is flattened, and the white becomes thin-

ner than normal, while the air space in the egg increases in size. In the fertile egg the change goes further, for the egg begins to hatch.

What the commercial trade terms a "weak" egg or a "watery egg" is merely a stale one which has usually suffered rough handling. The result is that the white is frequently thin and the membrane lining of the egg proper has become so loosened that the latter rattles around loosely when the egg is turned. In the late summer and autumn when the hens are not laying, and country merchants are withholding stocks for high prices in the future, such eggs form a very large proportion of the current receipts of the city market.

POULTRY NOTES

"White comb" in fowls is caused by decayed food, impure water, and overcrowding in dark and filthy houses. There is a scurfy appearance to the comb, wattles, head and neck, with a gradual loss of feathers from the head and neck. Treatment consists in removing to clean quarters, and giving wholesome food. At night give a teaspoonful of castor oil, after which add daily a teaspoonful of a good condition powder to the soft food, and anoint the head and affected parts with vaseline. The castor oil need be given only once.

The loss of feathers on the front of the male bird's neck, is generally due to some feather pulling. If his wattles are long, he is apt to get some of the morning mash on them, as well as on some of the feathers on the neck. A hen noticing anything on the wattles of a male bird generally picks it off, and if there should be anything on the feathers near the wattles, it would be natural for her to pick at them also, and in this way may gradually get the neck bare. In cases where the head and back of the neck are bare, and upon which is found a substance like dust, it is due to scurf. For this trouble nothing is better than to first give a teaspoonful of castor oil, after which give, daily, a little condition powder in the food. Anoint the parts with vaseline or petroleum jelly. The loss of feathers on the backs of hens is usually caused by sharp claws of the male bird. File the nails a little blunt, and remove the afflicted hens to separate quarters, feeding a little sulphur in the soft food and anoint the skin with vaseline or petroleum jelly.

Venetian red (powdered paint) is composed of sulphate of iron and

lime. It is an excellent tonic, and especially valuable in cases of indigestion. The dose is a tablespoonful in one gallon of drinking water.

BRED TO LAY

And prize-winning strain. Barred Plymouth Rocks, White Orpington Indian Runner Ducks, Silver Spangled Hamburgs; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

F. C. MITCHELL CROOKSTON, MINN.

HATCHING EGGS

Rose Comb Reds, Single Comb White Leghorns and White Wyandottes. \$1.00 per 13, or \$1.50 per 15 prepaid. Day-old chicks. Orders booked. Also have Indian Runner ducks and Mammoth Bronze turkeys.

Jos. O. Berg

Hendrum, - - Minn.



Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now.

Mrs. Ira Heidebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes, Light Brahmas, and S. C. White Leghorns. Over 30 years a breeder. Stock and eggs for sale. Michael K. Boyer, Box 27, Hammonton, New Jersey.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

Latta's S. C. Rhode Island Reds. First Prize Winners wherever shown. Stock and Eggs for Sale. J. G. LATTA, Wheatland, N. D.

Plum Grove Stock and Poultry Farm. Breeders of Red Polled Cattle, R. C. White Leghorns and Buff Wyandottes. Stock and Eggs for Sale. V. E. GRANT, Prop., Cuba, N. D.

POLAND - CHINA PIGS

THE BIG, EASY-KEEPING KIND

Early spring pigs for sale at \$8.00 each, \$15.00 a pair, or \$21.00 a trio (not related.) Eggs for hatching from pure-bred Turkeys, Ducks, Chickens, etc.

MRS. EMMA TIMMERMAN

R. No. 1, - - - St. Peter, Minn.

EGGS FROM BUFF ORPINGTONS AND S. C. RHODE ISLAND REDS at special low prices Bred to lay. F. M. PEZALLA, Cayuga, N. D.

BRED TO LAY AND WIN

If you want Quality write

Enoch J. Peterson, Alexandria, Minn.
Formerly Peterson Bros., Harwood, N. D.

HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns Hillsboro, - North Dakota

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

Advertise

Your Breed of Poultry
It Will Pay You

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free.
L. GULDEN, Osakis, Minn.

School and Home

THE WHEAT AND BARLEY THE FARMER RAISES

SEVENTH YEAR—SEPTEMBER
By Charles Cristadoro

When it comes down to the staff of life "wheat is king." No cereal equals wheat for the making of bread, and every substance that can be imagined has been tried for bread, from the bark of the tree to the clay of the ground. Wheat leads all cereals for bread-making, because of its peculiar gluten content, not as to quantity, but as to bread-making quality, as possessed by no other cereal or legume. Barley, however, is richer in diastase. Wheat is not the cereal highest in protein content, oats and lentils far exceeding it, but neither of them will make well leavened bread, nor will barley.

There are many kinds of wheats and some of our best wheats today are credited up to accidents, as it were. Even the superb Durum wheats of our northwest, the richest in gluten and sugar of all wheats, imported as seed from the dry-lands of Russia fifteen or more years ago, are said, erroneously, to have come from the crop of a wild goose, far down from the frozen north, shot on the Dakota prairies. If there are any "goose wheat" farms up Labrador way or close up by the north pole, no explorer has ever reported same. Like every other plant wheat demands plant food and moisture.

As to plant food, fifty bushels of wheat will draw from the ground seventy pounds nitrogen; twelve pounds phosphorus; and thirteen pounds potassium. The necessity of fertilizers on wheat land is therefore apparent. As to moisture, a bushel of wheat is calculated to remove from the ground 81,420 pounds, over forty tons of water. An off hand general rule is a bushel of wheat yielded for each inch of water in the ground.

So whether it be wheat or barley, especially in a semi-arid country, deep plowing should rule, followed by proper mulching. Summer fallowing is the economic course to follow, for it means in two years with one plantings and one harvesting far more of a crop than could be raised by three successive yearly plowings, planting and harvestings. The men who plants barley will learn

this valuable lesson, in time. The new men who, under the Mandell act allowing 320 acres of semi-arid land to a government land holding will learn why the semi-arid farmer can take up 320 acres as against 160 of moist land; this act being designed to permit of this very summer fallowing, 160 acres fallow and 160 in crop. Barley, the same as wheat, demands moisture and when if wheat is up six or eight inches it pays to run the harrow over and break up the crust on the surface and dislodge any arros, it will pay for barley. It will pay when barley is up twelve or more inches to run the harrows thru again. The conserved moisture and the increase of yield will pay over and over again for the few stalks trampled. Barley and wheat are deep-rooted and the harrow teeth properly slanted and down but three inches or so will uproot but few plants if any at all. To run a harrow thru growing grain seems insane, yet it is the best of practice. Just so much more moisture sealed into the ground.

Irrigated wheat would be all right, if the farmer knew just when to turn off the water and then could devote himself religiously to keeping that lessened amount of moisture in the soil by cultivation, harrowing and mulching. Whilst the wheat and barley roots need not be swimming in irrigation water, when during the growing period the plants need water, they need it surely. The secret is how to have enough on hand stored in the earth, sufficient for the transpiring demands of the plants, yet not enough to dilute the plant food in the soil.

SOME LIVE SUBJECTS FOR DIS- CUSSION AT FARMERS' MEETINGS

The Colorado Agricultural College suggests the following questions for discussion at the farmers' clubs.

Do country schools train boys and girls for farm life?

Which is better on the farm, bath tub or automobile?

Cost and benefits of an Agricultural College education.

Do mothers teach daughters thoro housekeeping?

Who has the best-kept farm home in the community?

LOSSES OF SOIL MOISTURE

James Collins, Colorado A. C.
EIGHTH YEAR—SEPTEMBER

There are three ways in which a soil loses its moisture—by percolation, evaporation and transpiration thru the leaves of the plant in the form of vapor.

Losses by evaporation may be reduced to a certain extent by mulching the soil. Mulches from a layer which is rather impervious to the movement of water. Generally speaking the average mulch is about three inches deep and is obtained either by using a harrow or some other form of cultivation. It is by the aid of mulch that the dry farmer is able to conserve sufficient amounts of moisture to produce crops.

This treatment is of great importance in managing land in cultivated crops such as corn and sugar beets whenever a dry period comes on.

Losses from transpiration cannot be controlled to any extent as they are governed largely by climatic condition, the principal agents being heat, humidity and air movement. In an arid climate losses of soil moisture become very large because of the dry air and intense sunlight. Consequently larger amounts of moisture are needed for the successful production of crops in an arid than humid climate.

NINE THOUSAND TOP-NOTCH CORN GROWERS FROM THIR- TY-THREE STATES TO BRING EXHIBITS TO THE EXPOSITION

Nine thousand young Burbanks of the cornfields—boy and girl delegates to the convention of the National Top-Notch Farmers' Club are expected to visit the Panama-Pacific International Exposition in a body in 1915. These delegates will represent every great corn producing county in 33 states of the Union, three representatives being chosen from each county by the governor of each state.

Each of the 9,000 delegates to the greatest exposition ever held in the world has earned the honor by producing a record-breaking acre of corn, the greatest food material in the world, running upwards of a hundred bushels to the acre. Each will bring with him his unique credentials in the shape of ten ears of his prize corn to place on exhibition, in competition with the world. If laid side by side, these ears would extend for a distance of four miles—enough to put a golden girdle around the outside wall of the entire exposition grounds.

No one is eligible to membership in the Top-Notch Club who has not

produced over 100 bushels of corn to the acre; and when it is remembered that 50 to 70 bushels formerly were regarded as a maximum, the great work, which these young promoters of intensive cultivation are doing to educate their parents may be appreciated. The president of the club is the boy who holds the highest record. This year it was W. I. Dunson, of Alexander City, Alabama, who earned his office by producing over 232 bushels on an acre, and he will hold the office until such time as some one by better methods of selection of seed and cultivation takes from him both the record and the office. This is the merit system, plus.

Each corn growing state is entitled to a vice-president, provided that some one in the state gets over into the 100-bushels-to-the-acre class. So far 33 states have qualified. Consequently 33 young fellows have acquired the offices of vice-president thru their own efforts—pull and the support of friends being at a discount. Each of these farmer-officials holds the record in his state.

The Top-Notchers constitute the 223rd great national or international convention which has voted to meet at the Panama-Pacific International Exposition during the ten months of its life. About two dozen of these congresses have to do with problems of agriculture, horticulture, and stock breeding. In the latter department alone \$225,000 in prizes are offered. For housing the conventions the exposition is building two great auditoriums, one of them costing over a million dollars, and having twelve halls with a seating capacity of 12,000 people.

SOIL CONSERVATION

W. J. Spillman in U. S. Bulletin
SEPTEMBER—EIGHTH YEAR

How to restore and maintain the productivity of the soil is the most important phase of the conservation problem. We are no longer a new nation. We have deluded ourselves with the idea that we have unbounded resources in land, in forests, in mineral wealth. We have been prodigal in the utilization of these resources. We must now pay the penalty of this prodigality. In many of our older communities soil fertility has been reduced below the point of profitable production. Nation-wide effort at the present time, thru federal and state agency, is directed toward the restoration of fertility in these localities. On the prairies of the West fertility is beginning to wane. In order that

our heritage in the prairie country may not follow the descent of the East and the South, it is necessary that intelligent and vigorous effort be made to farm correctly. We must cease abusing the soil. The renting of land on short leases for the purpose of growing grain for market is one of the surest means of reducing the productive power of the soil. The domestic animal, with well-managed pastures and rational systems of crop rotation, is pre-eminently adapted to the development of permanent systems of profitable farming. Landowners must realize this and must take steps to improve renting methods by stocking farms with a full complement of domestic animals, where the renter is not able to do this for himself, and by giving longer leases, whereby the renter may reap the reward of intelligent management.

In the first place, we must increase the number of domestic animals on our farms. Where land is farmed by renters the leases must be made for longer terms, and where the renter has not the capital to provide the proper number of domestic animals these must be supplied by the landowner. We must give more attention to the condition of our pastures. In some parts of this country pastures have been overgrazed until they are nearly worthless. This is especially true in some regions where dairy farming is prominent. Cows are turned on to pastures too early, and the grass is given no chance to make the necessary growth to maintain vitality. Pastures which formerly supported one animal on two acres now support only one on ten acres. This is not universally true, but it is true in large areas. The ranges of the West have been depleted by over-pasturing, and in addition are now being settled by farmers, so that the range area is decreasing. There is a serious shortage of livestock in that section, and this shortage must be met by raising more young stock on the farms of the East.

Effect of Livestock on soil Fertility

The effect of livestock on the fertility of the soil needs no demonstration. It is well known to every intelligent farmer. Up to the present time, at least, no system of agriculture has been permanently profitable without the use of domestic animals as a means of maintaining the productivity of the soil. Whether such systems are possible remains to be seen. It may be that the use of legumes and other crops producing humus, combined with the judicious use of commercial fertilizers, may serve to maintain high yields, but the supply of commercial fertilizers is not

unlimited, and ultimately these soil amendments will have to be dispensed with.

Effect of Legumes

In addition to increasing the number of domestic animals on American farms our farmers must pay more attention to leguminous crops and to other crops which provide a supply of humus for the soil. Legumes, such as clover, peas, alfalfa, etc., are especially important because of the fact that with the aid of certain soil bacteria they are able to draw their supply of nitrogen from the air. Having thus an unlimited supply of this valuable plant-food constituent, they become very rich in nitrogen. The stubble and roots of a leguminous crop frequently leave in the soil sufficient nitrogen for the needs of the crop that follows. Recent investigations by this Department in Kansas and Nebraska show that the average increase in the yield of corn grown after alfalfa, compared with corn grown after nonleguminous crops, is 75 per cent. A good crop of clover has a similar effect on the yield of crops which follow it. Instances are known where the practice of sowing bur clover in cotton fields in the fall of the year and turning it under in spring in time for another crop of cotton has, in three years, doubled the yield of cotton. Crimson clover sown in a similar manner between crops of corn has, in a few years, increased the yield of corn 50 per cent or more.

The reason these leguminous crops have such a marked effect on fertility in many cases on depleted soils lies in the fact that nitrogen is not a constituent of the soil proper, but only of the decaying plant and animal matter in the soil. When soils are farmed for many years without any attention to their fertility this organic matter is rotted out and the nitrogen disappears. Hence nitrogen is nearly always the first plant-food constituent to become deficient in the soil.

The fact has already been referred to that we export a large proportion of our cotton-seed meal, oil meal, and other rich nitrogenous feeding stuffs. In 1908 we exported linseed-oil meal to the amount of 696 million pounds, cotton-seed meal 929 million pounds, and corn-oil cake 66 million pounds. These materials are all exceedingly rich in nitrogen. They should be kept

MILK COOLER

Get one of these milk-coolers. Will keep milk cool and in good condition. Is constructed of an excellent quality of tin. Send for prices.

E. J. BRISS

Necedah, - - - Wisconsin

at home, fed to livestock, and the manure returned to the land.

Dependence on Our Own Resources

There is this difference between our situation and that of the older countries of Europe: Hitherto we have been exporters of our feed stuffs rich in fertilizer constituents, while they have been importers. They have been drawing on the newly settled regions of the world for materials with which to feed their crops. Now that we have reached the period where we need to do the same thing, there are no great areas of virgin soil from which we can draw such supplies. Indeed, it seems that the countries of Europe will not always be able to draw on supplies of this character from other parts of the world, because they will soon be needed in the regions where they are produced. The American farmer can therefore not hope, at least in the near future, to import feeding stuffs with a view to enriching his land, but he will be making a long step forward when he quits exporting these materials and returns them to his own soil. Whatever shortages there may be must be made up by the intelligent use of commercial fertilizers. There is no danger of a nitrogen famine. We can grow leguminous crops to supply nitrogen. We can also, by judicious use of the refuse from grain and other crops and by the use of intelligently planned crop rotations with occasional catch crops for green manure, keep up an abundant supply of humus. Even if we had no other resources for maintaining the fertility of the soil than leguminous plants and humus-making crops we could, on much of the land in this country, maintain a much higher standard of yields than obtains at the present time.

These facts show that the main work to be done for soil conservation in this country is that of teaching the farmer how to utilize the resources at his command. The methods to be pursued are, in the main, understood by leading agriculturists and progressive farmers all over the country, but they are not understood by the great majority of farmers. The latter must be taught by precept and example. It will take time to bring about the necessary change.

The methods necessary in bringing about these changes are, first, to determine what types of farming are best adapted to the conditions prevailing in the different sections of the country, and, second, to help the farming population to readjust itself to these conditions. This readjustment is an expensive process to the farmer—new equipment must be

earned and more labor must become available. Not only must the farmer be taught the principles of soil management, but he must be taught how to take better care of his animals and how to breed a better class of animals. National and state agencies are now co-operating in this work of teaching the farmer improved methods.

Present conditions in America are merely an incident in the development of a new agricultural region. Now that the period of settlement and exploitation of the soil is passed, we are under the necessity of developing systems of farming suited to the individual soils in order to develop their highest efficiency and to make the most of their fertility. Where the last has been impaired, the systems must be adjusted to obtain the restoration of the highest possible productivity under economic limitations, while keeping in view the best uses of the soil when the fertility has again reached its maximum. In this readjustment we shall have to draw on the results of scientific investigation and on the experience of older nations. Many of our own farmers have successfully met these great problems, and their experience now becomes a source of valuable information to others. Fortunately our people are intelligent and aggressive, and there is every reason to believe that they are capable of meeting the emergency which now confronts us.

MEXICO IS STILL "WARM"

H. E. Burchard, Mexican representative of the J. I. Case T. M. Co. of Racine, writes you may be interested in an account of one of the everyday incidents which is quite typical of the situation here in Mexico. You at home know, of course, in a broad way, what conditions are, but a side light such as this, which is a usual occurrence here may possibly give you some idea of conditions which does not usually get back to the states. This incident has to do with the delivery of a 110 horse power traction engine to its owners, Don Francisco y Don Jose Madrozo, a Comisionista from Aguascalientes, Ruiz de la Polla, and a neighbor, Don Federico Loyola. The tractor was scheduled for the Hacienda "La Punta," some distance from Aguascalientes, where it was to be used for plowing. I started from town with the engine, while its owners accompanied the tractor by motor car. We were well started on our journey when a mozo came rushing to tell us that bandits were about to take the

Hacienda. With this information, my fellow travelers left me with the tractor hastening to "La Punta." They had been gone about an hour when there suddenly showed up in the road a group of thirty or forty Mexicans. They circled about me, questioning as to whose tractor it was, and where was it going? While the leaders were after information, others proceeded to dismantle the tractor. This was not particularly agreeable, and so I quickly jumped from the engine, "reached" for the leader, and fortunately "got" him. Before they could realize that I was in for business, I was able "to get" four others. Then some one threw a rock, which struck my left shoulder. With that, springing back to the engine, I pulled my gun and yelled to them in Spanish, "Do me the favor to throw another stone." At the sight of a weapon they took to the bushes, mesquite and cactus, leaving on the ground the five whom I had met. It was due to no undue prowess on my part that this little trick was turned. It was only that I was fortunate enough to lay out the leader the very first one, and without a leader these people are absolutely hopeless and helpless.

While I was thus pretty busy, those who had left me had arrived at the Hacienda, and putting their wives and children into the cars, left at once for Aguascalientes. As they went out the rear door, the bandits came in the front, shooting down one poor mozo who got in their way. That evening I met them all in Aguascalientes, and we planned to leave at two o'clock in the morning for the Hacienda. Late the following evening twelve of us arrived at "La Punta," each with a gun on each hip, and a rifle with two hundred and fifty rounds of ammunition.

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Nest, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for \$1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

See California

and her two great Expositions
FOR ONE DOLLAR

California will hold next year two great universal Expositions, one at San Francisco and the other at San Diego, in celebration of the completion of the Panama Canal and the joining of the Atlantic and Pacific Oceans.

To supply the demand for reliable and authentic information on California and these two Expositions, we have published two guide books; one on San Francisco, the Exposition and Northern California; the other on Los Angeles, San Diego, the Exposition and Southern California, also a lithographed view of San Francisco in colors (size 30x45 inches) a picture of the rebuilt city, including the Exposition. Each book is 6x9 inches, contains 150 pages and beautiful illustrations.

These two books and view give a comprehensive, honest history and description of the State, her principal cities, resources and her two great Expositions. Sent postpaid for a one dollar bill, money order, draft or check. North American Press Association, 1445 Hearst Building, San Francisco

You should have seen the place when we got there. Such complete ruin have I seldom seen. The furniture and dishes were smashed, trunks and grips broken open; the safe and office blown; everything, in short, in tatters. This state of affairs put the group in a frame of mind to waste no time in seeking these outlaws. We started immediately in search of the bandits. The next day we got our one and only prisoner. He had a two-wheeled cart, used here commonly instead of lumber wagons. In it were eight or ten grain sacks, stuffed with grass and hay. On the surface, it looked innocent enough, but we were naturally suspicious. On opening the sacks, we found pistols, eye-glasses, shoes, zarzpes, blankets, dresses, and everything that had been stolen from the Hacienda. The Madrazo brothers recognized it all. I have seen some rage in my time, but nothing that could compare with that which they showed on finding the articles that had been taken from their Hacienda.

By unanimous consent it was decided that the man must be shot. So telling off five men as a firing squad, he was placed under a palm cactus, and the man in charge of the execution paced off the distance. The prisoner weakened, and asked for a priest. Being the only smooth-shaven one, I became the priest. In his confession he disclosed secrets that were valuable, but as he mentioned names of men and places with which I was not familiar, and in his excitement they were badly jumbled, the information was of little use. On second thought, it seemed best to hold him until the following day, to get a genuine priest.

With our portable telephone outfit, we tapped the wire, only to learn that the bandits were near "Matansilles," another Hacienda belonging to Don Nicolas Madrozo. We started at once for that place, arriving there in time to prepare for the arrival of the bandits. We found three bombs that were placed in charge of a Spaniard on the roof of the main building. Those who could shoot, and were well armed, were stationed on one roof, the rest on the other. It was our plan upon the arrival of the bandits in the courtyard that the automobile light would be turned on to dazzle them, and that the exploding of the bombs would frighten the horses, while the rifle and shotgun firing which would be pouring in on them from the roofs, would result in a victory for us. But so go the best laid plans. Some unfaithful peon slipped out thru the cactus and gave the alarm. But our purpose was served—the Hacienda was safe.

With no more bandits in sight, I returned to the tractor, delivering it, tired and hungry, at the Hacienda "La Punta." Arriving there, dead tired, I took a cup of chocolate and lay down to rest. I had been resting about twenty minutes, when I was rudely awakened by the housekeeper shouting in Spanish, "Awake, Senor, for God's sake, wake up, the bandits are upon us!" Being alone here, I decided the best thing to do was to get for Aguascalientes. So, gathering together the few from the Hacienda, taking the books that had been left from the previous raid, we ordered a coach and six horses, and started. We went over the trail at full speed, taking the turns on a run that would have been dangerous on a walk. About ten kilometers from Hacienda we ran into a group of men on horseback, but as they still had their arms in the holsters, we were able to cover them, demanding why they obstructed the trail. Not getting a satisfactory answer we ordered them around the

turn, covering them until they were out of sight, finally arriving at Aguascalientes tired but safe.

While we were getting under cover, the owners, with the fifty soldiers who had gone out somewhat earlier to clear the road, had chased the bandits into ambush. Fifty-three, including the leader, Jose Quiros, died fighting; forty-seven surrendered, and were placed before the firing squad in groups of five. Mexico no longer has to fear a single one of these bandits.

Such instances as this are not extraordinary here; in fact, they are getting so monotonous that they almost cease to be interesting. Possibly, however, such a tale may hold a lot of interest for you all back home.

FENCING of all styles and heights; gates, barbed wire; Hog, Poultry and Cattle Fencing at low prices. Send for free fence circular.

E. J. BRISS

Necedah, - - - Wisconsin



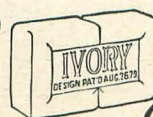
WHEN men go camping, they travel light. Each of the few things taken has its part to do and must be depended upon to do it.

Therefore, the fact that they take Ivory Soap to do the cleansing has the following significance:

It means that Ivory fulfills every soap requirement. That it can be used for the toilet and for washing clothes and utensils equally well. That it can be used *conveniently* under any and all conditions.

Ivory Soap fulfills the trust placed in it because it is of extraordinary quality, because it is mild and pure and because it floats.

IVORY SOAP
99 ⁴⁴/₁₀₀ % PURE



Seasonable Receipts

Edited by Mrs. Sadie Baird.

Soft Ginger-drop Cookies

One cup sugar, one cup molasses, one cup lard, one cup boiling water, one teaspoon soda, one teaspoon ginger, three eggs, half teaspoon salt, four heaping cups flour. Drop from spoon; put raisin on top of each cookie. Bake quickly.

Mother's Gems

One well beaten egg, one tablespoon butter, one cup buttermilk, one-half teaspoon soda in flour, one and one-half cups graham flour, one-half cup white flour, one saltspoon salt.

Wild Plum and Crab Apple Jelly

Prepare the plums by sprinkling with a little soda and covering with boiling water; let stand ten minutes and drain. Cover fruit with fresh boiling water and cook thoroly. Strain thru jelly bag. Wash and cut up the apples, cover with boiling water and cook to a mush. Strain thru jelly bag and to every pint of the juice take two of plum juice. Allow one pint of sugar to every pint of the mixture. Proceed as for other jellies.

Fried Onion Gravy

Fry onions in usual way with plenty of fat; add flour and brown; then pour over this the water from which your potatoes have been cooked. An excellent and nourishing gravy is the result.

Vegetable Soup (without Meat)

Small head of cabbage, six carrots, cut small and put on to boil; when nearly done; brown a tablespoon of flour in fat and add to soup; salt and pepper to taste. Half a teaspoon of celery seed tied in a bit of cheesecloth and cooked with the soup takes the place of celery and is much cheaper.

Egg and Lettuce Salad

Garnish shredded lettuce with slices of hard cooked egg and thin slices of onion. Pour over French dressing or serve with boiled dressing.

Russian Salad

Mix one cup cold cooked carrot cubes and potato cubes, one cup cold cooked peas and one cup cold cooked beans and pour over French dressing. Arrange on lettuce leaves in four sections; cover each section with mayonnaise dressing. Garnish with "hard cooked" eggs and parsley.

Mexican Salad

One large cucumber, three tomatoes, one cup celery, one-fourth cup parsley, one-half cup green peppers.

Tomato Salad

One-half package gelatine, one-fourth cup water (cold), one and one-half cup hot strained tomatoes, one-half cup chopped cabbage, juice two lemons or one-fourth cup vinegar, one-fourth cup sugar, one-eighth teaspoon salt.

Cream Dressing

One teaspoon mustard, one teaspoon salt, four teaspoons flour, three teaspoons powdered sugar, few grains of cayenne, two teaspoons melted butter, yolks of two eggs, two-thirds cup hot vinegar.

Light Biscuit

Take enough bread dough for one loaf (about 2 cups), 1 cup sweet milk, 1 tablespoon each butter and sugar. Mix and let rise. When light form into biscuit and let rise very light before baking.

Apple Johnny Cake

One cup flour, 1 cup corn meal, 1 teaspoon baking powder, 1 teaspoon soda, 1 cup buttermilk or sourmilk, one-half cup brown sugar, 1 egg well beaten, 2 tablespoons melted butter. Put together in the order named, mix thoroly and add 3 large tart apples, chopped fine. Bake about 25 minutes in quite a hot oven.

Oat Bread

One cup rolled oats; on this pour 2 cups boiling water; stir in 1 tablespoon lard, 1 teaspoon salt, one-half cup sugar. When cool add 1 cup soft yeast or 1 yeast cake in 1 cup water, one-fourth teaspoon soda, four and one-half cups white flour. Stir with spoon; when light, stir down and place in tins. Let rise and bake slowly. Do not let it get too light before baking.

Scalloped Cheese

One cup bread crumbs one and one-half cups milk, yolks of 3 eggs well beaten, 3 tablespoons melted butter, one and one-half cups grated cheese, salt and pepper to taste, also sprinkling of cayenne pepper. Whites of the three eggs beaten stiff and stirred in last. Put in a baking-dish, cover the top with bread or cracker crumbs and bake in a hot oven twenty minutes.

Corn Salad

Cut corn from three dozen ears, two heads cabbage, three red or green peppers chopped with cabbage, one-half scant cup mustard, three cups brown sugar, five cents' worth tumeric, one-half cup salt, one and one-half cup vinegar. Mix and boil thirty minutes.

A Nice Way to Cook Young Chicken

Dress them and joint as usual; place in dripping pan and just cover with sweet cream. Season with salt, pepper and a little butter, and by the time the cream is nearly cooked away the chicken will be done. There should be enough cream to serve the mashed potatoes as gravy.

German Sauce

One gallon chopped tomatoes (green) one gallon chopped cabbage, one quart chopped onions, one-half cup salt. Mix and leave over night, then drain. Add one tablespoon pepper, one tablespoon pepper, one tablespoon cloves, one tablespoon allspice, one tablespoon mustard, one pound brown sugar, two quarts vinegar. Mix well. Do not cook.

Crabapple Pickles

Boil one cup vinegar with three cups sugar, five minutes. Add one-half teaspoon whole cloves and one tablespoon stick cinnamon. Drop apples in a few at a time and cook very slowly till tender. Put in a jar and pour syrup over. This will make about two quarts.

BAKER'S COCOA

Is Good Cocoa



Of fine quality, made from carefully selected high-grade cocoa beans, skilfully blended, prepared by a perfect mechanical process, without the use of chemicals or dyes. It contains no added potash, possesses a delicious natural flavor, and is of great food value.

WALTER BAKER & CO. Limited
Established 1780 DORCHESTER, MASS.

Why Not

Spend Your Vacation In **YELLOWSTONE** **PARK** THIS YEAR **SEASON 1914**

June 15 to September 15

Nowhere else in all the world is there a place so rich in natural phenomena. Pullman Standard Sleeping Cars daily direct to

Gardiner Gateway

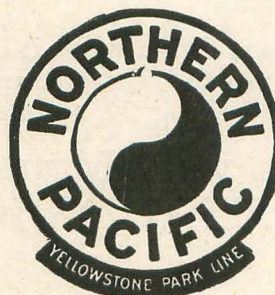
This is the natural and logical route to and through Yellowstone Park. You see it all—the painted terraces and bison at “Mammoth;” the paint pots and geysers, in regular order; Yellowstone Lake, a mile and a half above the sea; the Grand Canyon, the climax of the tour. Through regular Train Service daily, with Pullmans direct to the Park boundary and to North Pacific Coast Points.

Send for illustrated literature.

A. M. Cleland, G. P. A.,
St. Paul, Minn.

or call and see

J. A. G. RISK, Agent,
Lisbon, N. D.



Panama-Pacific International Exposition San Francisco, 1915

Panama-California Exposition San Diego, 1915



Why "Mound City" House Paint HOLDS Its Gloss

WHY do you see so many dull,
faded-looking houses?

The trouble with such houses is that they are Oil-hungry. They are painted with a paint that has not enough Linseed Oil in it—a paint that never *could* have enough Oil in it on account of the character of the pigments used.

The best Paint *must* do two things. It must preserve and beautify. Do you know that Linseed Oil is *the* great preservative in Paint and that if it were not for the sake of appearance, you could give your house a coat of pure Linseed Oil, and it would be protected?

The solid part of Paint (Strictly Pure White Lead, Strictly Pure Zinc, and, in some Paints, baser metals) acts as beautifier only.

Strictly Pure Zinc absorbs more Oil than any other pigment and that is the reason for its use in Horse Shoe Paint. WHITE LEAD is used for its covering qualities, and ZINC for its *Oil-carrying* capacity.

And Oil-carrying capacity is what your Paint *must have* if your property is to be protected.

Horse Shoe Paint, while it covers and beautifies the surface thoroughly, is made of pigments that carry so much oil, that the *first* coat satisfies the oil-hunger of the wood leaving the second coat to gloss, harden, protect, and beautify.

That's why Mound City Horse Shoe Brand House Paint HOLDS its gloss.

Mound City Paint & Color Co.

GOOD MAKERS OF GOOD PAINTS

St. Louis, U. S. A.

NORRIS B. GREGG, President

WM. H. GREGG, Jr., Vice-President

E. H. DYER, Secretary